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CONTINUING "THE ELEMENTARY SCHOOL TEACHER"

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EDUCATIONAL NEWS AND EDITORIAL COMMENT

A Home for the Rural Teacher

As the result of an experiment conducted by an energetic young school teacher a few years ago in one of the rural districts of the state of Washington, a movement has been launched to provide the rural teacher with a home adjacent to, or part of, the schoolhouse. The young teacher in question, being unable to find a family that would accept her as a boarder for the school term, persuaded the school authorities to move a portable cook-house into the school yard, in which she lived for the entire term. This scheme worked so well that the following year a cottage was erected for the use of the teacher.

This idea of the teacher's cottage, or "teacherage," at once received the support of the state superintendent of Washington, and thus spread to other districts. From Washington the idea has spread to other states, until it is represented at the present time by at least one teacher's cottage in each of 36 states. Texas leads with 167 cottages, Washington is second with 108, and Minnesota third with 52.

To anyone who is at all familiar with the many inconveniences which fall to the lot of the rural teacher, it is evident that this movement represents a step in the right direction. And it is gratifying to know that the movement has the support of the General Federation of Women's Clubs, the General Education

Board, the American Civic Association, and the United States Bureau of Education.

Free Textbooks in Fifteen States

An interesting bulletin on *Free Textbooks and State Uniformity* has recently been issued by the United States Bureau of Education. According to this bulletin free-textbook laws are in force in fifteen states.

The movement for free textbooks should have the hearty support of all school men. Provision for free textbooks is a logical part of our system of free education. Indeed, until we do have free textbooks we shall not have free education in fact. Especially is it true that free textbooks should go along with compulsory education, because, if the state demands that a parent send his child to school, it is certainly the duty of the state to provide textbooks for the child when the parent is unable to do so. And if the state provides free textbooks for some of the children, it should provide them for all, if the spirit of democracy is to be fostered.

Thus, while it is gratifying to know that there are free-textbook laws in fifteen states, there should be more. It is to be hoped that the fight for free textbooks will be vigorously carried on until every state has a system of free textbooks and a system of really free education.

Domestic Science in Co-operation with the Home

The following item is taken from the *Educational News Bulletin* issued by the State Department of Education of Wisconsin:

The objects in giving credit for home work in the domestic-science course at Plainfield are: "(1) to encourage girls to apply at home what they have learned at school; (2) to co-operate with the home in getting the girls to do cheerfully the too often despised operations of household routine; (3) to stimulate in girls originality and thrift in planning and executing, whether it be with regard to a menu or a garment, and (4) incidentally to do a little extension work in the community.

"Especial attention is called to the elasticity of the requirements. The less energetic girl has a chance to do something, and the little she accomplishes often serves as an incentive to do more the following six weeks.

"The girl who boards in town has an almost equal chance with those whose homes are in the village. Emphasis is laid upon things requiring planning and originality, and yet the routine duties are not minimized.

"The domestic-science teacher has half of Friday afternoon off to visit homes and interview mothers. We are aiming to make our domestic-science department serve the entire community.

"We hold an annual school fair, the net proceeds of which practically pay for materials used in classes."

Following is a tabulated list of home credits awarded:

I. COOKING

Bread	5	Fish	3
Cake	2	Soup	2
Pie	3	Potatoes (baked or boiled)	½
Cookies	2½	Vegetables:	
Doughnuts	2½	Scalloped	1
Sandwiches (1 doz.)	1	Boiled creamed	1
Baking-powder biscuits	2	Special dishes	2
Cereals	½	Salad	1
Eggs	1	Dessert	1
Meat:		Griddle cakes	1
Roast	3	Candy	1
Broiled	2	Beverages	¼
Stewed	2		

II. GENERAL HOUSEHOLD DUTIES

Meals:		Dusting (8 times)	1
Routine	1	Making beds (8 times)	1
Planned	3	Scrubbing (1 room)	1
Washing dishes (16 times)	1	Room rearrangement and decoration	5–10
Sweeping (16 times)	1		

III. SEWING

Dress	6	Nightgown	2
Waist	3	Fancy work	1–5
Skirt	3	Apron	1
Underskirt	3	Darning (6 large holes)	1
Drawers	2	Patching (6 patches)	1
Corset covers	2	Pillow-cases	1

IV. LAUNDERING

Shirtwaist	2–5	Plain garments	½–2
Table-cloth	2	Fancy garments	1–5
Towels or napkins (6)	1	Bed linens	½

Credit is given in divisions I, III and IV only when work or samples of work are brought. Work is then graded and a corresponding percentage of points awarded.

At the end of six weeks marks are to be raised according to the following plan: 25 points, 1 per cent; 50 points, 2½ per cent; 75 points, 5 per cent; 100 points, 8 per cent.

Growth of School Banks

The movement to establish savings banks in the schools represents an attempt to make the school assist in practical training for good citizenship and deserves the support of school men. The movement is of recent origin, but that it has taken a firm hold on the educational system of the country is plainly shown by the fact that at the present time savings banks of one sort or another have been established in 1,325 schools in 280 cities in the United States. More than 928,000 school children have $1,792,640 on deposit in these banks. About 105,000 children have transferred their accounts from the schools to regular savings banks. Thus it is seen that nearly one school child in every twenty is a school-bank depositor.

A glance at the distribution of these school banks shows that, while the movement is not confined to any particular section, it is much more strongly established in the North and East than elsewhere. In New Hampshire 70 schools in 31 cities have savings banks, in Pennsylvania 213 schools in 38 cities, in New York 110 schools in 24 cities, and in Connecticut 81 schools in 27 cities; in eight great states of the Middle West, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, and Missouri, 560 schools in 80 cities have savings banks; in six western states, North Dakota, Kansas, Montana, New Mexico, and Nebraska, 76 schools in 16 cities have banks; in the states of the Pacific Coast 189 schools in 20 cities, and in seven southern states only 32 schools in 15 cities. From these facts it is seen that the states of the South and West have shown comparatively little interest in the movement.

All-Year Schools

The Bureau of Education has rendered a service to all city school systems by bringing together the facts regarding the experiment made in Newark, New Jersey, of conducting all-year elementary schools. In the form of a circular the Bureau sends out seven full pages reviewing all phases of the experiment. It will be possible for us to reproduce only a part of the circular.

The importance of this experiment will be recognized at once when it is remembered that schools in the United States, by omitting Saturday, and because of long vacations, have a shorter

school year by about seventy school days than do the better European schools. Furthermore, in urban centers children are left during the summer to find something to do under adverse street conditions, while the schools are closed on the assumption that the children are all on a profitable vacation.

Two all-year schools were organized in Newark, New Jersey, June 1, 1912, in order to save two years of the time now regularly required to complete the elementary-school course; to prove that under proper conditions of discipline and instruction pupils will suffer no physical or mental injury by reason of an additional eight weeks of school attendance during the months of July and August; and to demonstrate that the continuous session saves an enormous loss of time and energy.

These two all-year schools (the Belmont and the Seventh Avenue) proved so successful in every way that two other schools were organized on the same plan in the summer of 1915, one of these being the boys' industrial school. The other schools are located in the congested tenement districts, where there is nothing for the children to do during the summer but loaf and fall into bad habits. Experience shows that under ordinary conditions all the habits of industry established during the regular school term are broken up and must be formed again at the beginning of the next term, which is a slow process and involves a waste of time. Common sense demands that children be kept profitably employed during the long summer vacation. The problem of street loafing in the tenement districts of Newark has very largely been solved by these all-year schools. Several policemen report that they have had very little trouble with gangs of boys since the establishment of these schools and that there are fewer accidents in the streets.

From the very first the all-year schools have been popular with both pupils and parents. The best evidence of this is the accompanying attendance table.

Attendance

This is a remarkable showing for attendance during the summer, especially when the fact is considered that attendance is voluntary,

Year	Average Enrolment, Regular Term	Percentage of Attendance, Regular Term	Average Enrolment, Summer Term	Percentage of Attendance, Summer Term	Percentage of Regular-Term Pupils Attending Summer Term
1912 (2 schools)....	3,722	89.0	2,614	91.7	70.2
1913 (2 schools)....	3,625	90.1	2,574	92.5	70.8
1914 (2 schools)....	3,587	90.4	2,772	94.2	77.2
1915 (4 schools)....	5,309	91.5	4,470	92.4	84.1

and not compulsory, as during the regular term. In the months of July and August the attendance officers visit the homes to discover cause of absence

and to urge upon parents the necessity of keeping the children in regular attendance, but no compulsion is used.

What the Children Say

The children who have attended school continuously for the past year or two speak in eloquent terms of the value of the all-year schools. The representative of the Bureau of Education asked the pupils in the seventh and eighth grades to write compositions telling why they attend school during the summer. Nearly all the pupils stated that the schoolroom is much cooler than the streets and their rooms at home; that they have nothing to do but collect in gangs in the streets; and that they will gain a grade or two by the time they are old enough for their work certificates.

The following extracts taken verbatim from the compositions are typical:

1. "It [the summer term] keeps you from hanging around the streets and saves you from trouble."

2. "I am kept from bad company."

3. "If I hadn't come to school in the summer I would be in 5c, and I am in 7a."

What the Parents Say

Many parents whose children have attended school continuously for two or three years were interviewed as to their reasons for sending their children to school in July and August. Without exception all of them expressed themselves heartily in favor of the all-year plan. They emphasized the point that the children would be a grade or two higher when it became necessary for them to leave school, as many are required to do when they are old enough to work.

The following are some of the replies made by parents:

1. "A shame to let children run our streets during the summer. We people can't send our children away; our homes are not what they should be. They are not comfortable like the schoolhouse."

2. "The children if left to run the streets would be fighting and learning bad things. Some parents take up the quarrels of their children, and then there is a general row among the parents in the flat. There is less of this since our children attend school."

3. "I lived in another city where there was no school in the summer and I found the children got into more trouble than they do in this section of Newark, where the children are in school all day."

4. "If there were no summer schools, we would not know where our children are. They would leave home early in the morning and run all over the city. Now we know that they are safe in the schoolhouse and in no danger of being run over by automobiles or street cars."

Progress

How much time have the all-year schools actually saved the children? Though no exact statistics have been compiled to show how much time each pupil has gained, an investigation of the progress made by 271 pupils in the sixth, seventh, and eighth grades showed that 25 have made no gain, 67 a gain of one-third of a year, 59 a gain of two-thirds of a

year, 67 a gain of one year, and 53 a gain of one and one-third years. Some of those who have gained less than one and one-third years have not attended the all-year schools long enough to gain this amount. For example, some of those who have gained only one-third of a year have attended only one summer term.

Health

The health of the children! Will it not be ruined by working forty-eight weeks a year? If it can be shown that the child's health is not impaired by continuous application to school work, the last objection is removed to the all-year plan.

The medical inspectors of Newark report that, though no tests that might be classed as scientific have been made, the health of the children who have attended school all year has not been impaired in the slightest degree. A glance at the housing conditions in the tenement districts of any city should be enough to convince critics that the health of the child would be better conserved in the schoolroom than in the crowded tenement rooms and hot streets.

The regular school medical and nurse service continues in the summer, so that the health of the children in school is better cared for than that of those not in school. Good-health habits acquired during the regular term are not broken up by a long summer vacation, when the children not in school are beyond the influence of the school physician and the school nurse. The physician and the nurse both report that the children who have been out of school during July and August come back in September in poorer physical condition than those who have attended these two months, and that even the children who have been away at a summer resort are in no better physical condition than those who have been in school, since their recreation is likely to have been of a dissipating nature.

The Teachers

With only one or two exceptions the teachers who have been teaching continuously for three or four years say that their health has not been impaired in the least, that they go back to work in September after a two weeks' vacation as eager for work as they did when they had a longer vacation. Several teachers said that they preferred to teach the additional two months, not only for the extra salary, but because they became tired of the long vacation when they had no special work to do. Statistics compiled by the school authorities show that the average number of days lost by illness has been actually less during the year for the all-year teachers than for those taking the long vacation. One proof that the all-year schools are meeting with favor among the teachers is that many ask to remain to teach during the summer. A statistical study reveals the fact that most of those who have taught during the summer term ask for positions the next summer. To illustrate: In 1915 thirty-eight teachers were employed in the summer term at the Belmont School. Of these, thirty-four, or 89 per cent, were regular teachers in the Belmont School. Of the twenty-four Belmont teachers

who taught in 1914, eighteen returned in 1915. Of the six who did not return, two were married, one went to college, one had a summer-school position, and two took a vacation.

To maintain the all-year schools, an appropriation is needed to pay salaries of teachers and others for the extra two months. The teachers who continue in the schools through July and August are paid their regular monthly salaries. A teacher having a salary of $100 a month would in the regular school have a yearly salary of $1,000, while in the all-year school she would have a salary of $1,200.

Expense

It would seem that the all-year schools would be an additional expense, but the discovery has been made that instead of an expense they are proving an economy. The supervisor of the summer sessions of the all-year school says: "Let us suppose that there are two schools, each accommodating 3,000 children, one organized on the regular and one on the all-year plan. Let us suppose that all of these children will enter and complete high school. The elementary education of the 3,000 in the regular 8-year 320-week course will cost on a basis of 90 cents a week per pupil ($36.00 per annum) the immense sum of $864,000. The education of the 3,000 in the all-year 6-year 288-week course will cost on the same basis $777,600, a saving of $86,400, as compared with the regular school. An all-year high school would save, in educating these same pupils, the sum of $120,000 more. A study made last March of the educational progress made by the pupils of the two all-year schools which were first established showed that 283 pupils had been graduated who under the regular plan would have been still in school. Reckoning 40 pupils to the class, there would have been 7 additional classes in the two buildings. This would have made necessary 14 half-day classes in these schools. As these pupils would have been in the upper grammar grades, the additional cost to the city under the old plan would have been at least $7,000 per annum."

Special Training of Supervisors

The State Department of Education of Minnesota has issued an order which calls attention in a very pointed way to a most fundamental fact, namely, that school supervision requires special training. Heretofore it has often been the case that successful teachers have been promoted to principalships and have been content to assume that they could take up their new functions on the basis of their experience as teachers. The order which is reproduced in part below points out the fact that supervision requires a technique of its own and demands special training.

The administration of consolidated rural schools and of graded schools requires that the principal shall have definite ideas with

respect to the control and conduct and development of the school interests. Experience in Minnesota has been that a large number of the principals in charge of these two classes of schools are lacking in school experience, both as to supervision of school work, and as to general management and direction of the schools' varied interests and activities. Many of the principals come into these positions fresh from normal school or college. They must assume responsibility for planning study courses, selecting teachers, recommending schedules of salaries, planning purchases of library and textbooks, securing needed equipment and supplies. They are charged with the supervision of teaching. The growth and usefulness of the school as an institution for training depends in large measure upon the intelligent conception of the principal. The school should not be obliged to assume the responsibility and burden of his training and development as a useful and efficient administrator.

To the end that a group of public schools in Minnesota represented by those in the consolidated and graded class may be well and intelligently managed through the services of principals who have been in a degree schooled in the elements of school administration, courses will be offered in the summer session of the University of Minnesota for principals of these two classes of schools. A requirement is made by the Department of Education and by the high-school board to the effect that:

> Principals who begin their service in charge of a graded school or of a consolidated school in Minnesota for the first time next school year must be in attendance at the entire six weeks of the summer term at the State University.

The courses to be pursued by *all* principals are those in school administration and supervision.

Consolidated-school principals who do not hold permanent indorsement are *required* to take the courses in agriculture and manual training offered at the College of Agriculture.

For permanent indorsement as principal of a consolidated school, an applicant must take four summer sessions' work, placing special emphasis upon industrial work.

Principals of consolidated schools and of graded schools who have had previous experience in Minnesota as principals, and who are not required to take industrial or administrative courses, are

invited to attend the session and select such work as appeals to them as of most value.

Institutions, including colleges and normal schools, whose graduates take up this service are asked to make these requirements known.

School boards in districts maintaining graded or consolidated schools are asked to have these requirements in mind before employing principals for next year who have not had experience in such positions in Minnesota.

EDUCATIONAL WRITINGS

It has long been a tradition in normal schools and in college departments of education that psychology should be one of the fundamental subjects of the curriculum. The practical school people have often criticized this requirement on the ground that the books on psychology do not contain any suggestions that are of importance for teachers. On the other hand, psychologists have been rather disposed to criticize those who make the demand that their courses contain practical suggestions. They have been content to regard their science as the general background for education, and have felt that it is the duty of the teacher himself to find out the practical applications of the scientific studies which they are ready to give him.

Some modification of the psychology course will need to be worked out before the disagreements outlined above are cured. Professor Freeman has contributed to the solution of the problem by bringing together in one volume[1] studies of the elementary-school subjects. Psychology, as Professor Freeman conceives it, is not a general science to be applied to school problems by the teacher, nor, on the other hand, is it merely a discussion of the practical issues which appear in the classroom. It is the science of school processes, these school processes being, however, clearly recognized as suitable subjects for direct attack.

Professor Freeman's book opens with a discussion of handwriting. Investigations which he has made in this field have found many readers in the earlier forms in which he has reported his results. His present chapter summarizes briefly his earlier studies and puts the whole matter in a form so simple and direct that the student in the normal school or in the high-school training class can see the importance of making a scientific study of penmanship and can also understand the methods and results of such studies

In like fashion he canvasses drawing, which furnishes him an excellent opportunity to summarize the psychology of perception.

[1] *The Psychology of the Common Branches.* By Frank Nugent Freeman. Houghton Mifflin Co., 1916. Pp. 275.

At the same time he lays the foundation for the discussion, in the next chapter, of reading, which includes more elaborate perceptual processes than does drawing.

Music, spelling, history, geography, mathematics, and natural science are discussed in succeeding chapters, and each is subjected to a psychological analysis with a view to discovering the principles on which classroom methods may be developed.

The text is followed by a series of questions which may be used in discussions. The book in form is arranged as a textbook and is intended to be used as an introductory book either in education or in psychology.

The book carries out the logic of recent development in this field. It should be added that in its emphasis upon the school subjects the book is unique among educational psychologies. Its influence will reach beyond the elementary classes for which it was primarily prepared. It will appeal to teachers in service who are prepared to profit by scientific studies, and it will favorably affect subsequent writing in the field of educational psychology.

The demand for a general introductory book which shall include all phases of the study of education is heard in many quarters. Mr. Thorndike published, some years ago, a volume entitled *Education*, which was intended as a first general introduction to the whole field. Other authors have attempted the same task in a somewhat more pretentious form. Professor Phillips of the Warrensburg Normal School now comes forward with a volume[1] of three hundred pages, in which he summarizes school administration, school hygiene, school methods, educational psychology, and a number of the special problems which are not easy to classify under these separate heads.

The book is intended as an introductory volume for classes in normal schools and for training classes in high schools. It is interesting to see how the demands of these training classes are being met in such a volume as this and in such a volume as that by

[1] *Fundamentals in Elementary Education*. By Claude A. Phillips. Charles E. Merrill Co., 1916. Pp. 304.

Professor Freeman reviewed above. Evidently the earlier textbooks are too abstract and too remote from the actual problems which the teacher in training will observe and will encounter in his own experience. This book, in its effort to meet that criticism of abstractness and remoteness, contains a great deal of direct practical advice and a number of problems for study which will bring the student into close contact with actual school situations. That such an introductory volume covering a wide range of topics cannot enter into great detail in any of its discussions is, of course, obvious. That will be the line along which criticism of the book is likely to arise. Perhaps the book has attempted too much. On the other hand, there can be no doubt that a comprehension of the school problem as it is faced by the individual teacher is possible only when some general conspectus of the whole school system is in the teacher's mind.

Professor Phillips' volume lays more stress upon methods than upon any other single topic, but it prefaces this discussion of methods by a description of the school systems of the township, county, and state. Professor Phillips discusses finance, the building of the schoolhouse, its management, the organization of the curriculum, and other general topics.

The book is in the form of a text ready for class use. Each chapter, as indicated above, contains practical suggestions for the administration of the course in normal-school or college classes.

The report[1] of the School Committee of the city of Taunton, Massachusetts, for 1915 rises in point of interest above the ordinary school report in many respects. One ought perhaps in reviewing this report to give large attention to the progressive features of present-day organization exhibited in the Taunton schools. We shall venture, however, without in any wise minimizing the efficiency of this present-day work, to pass over the other features of the report and to comment at length on the historical document which the superintendent has included in this report.

A school report rendered on March 10, 1801, is printed in full. It contains a vivid picture of the schools of that day and also

[1] *Report of the School Committee of the City of Taunton, Massachusetts, for the Year Ending December 31, 1915.* Taunton: C. A. Hack & Son, Inc., 1916. Pp. 101.

shows that the problems which are confronting modern education are as old as the public schools. The report covers six pages and cannot be reprinted in full. Extracts are given below, however, showing first of all the religious character of most of the school discussions of that day. Undoubtedly one of the members of this visiting committee, perhaps more than one, was a clergyman. The town meeting usually employed a clergyman as a visitor. It is obvious that the influence of these visits was of a type which could be exercised by interested citizens, not by regularly constituted school supervisors with expert training. The day of expert supervision had not yet arrived. We see also that the teachers employed were very heterogeneous in their qualifications and that the kind of work which was accomplished by them was very irregular. We find in this report indications of the way in which the school was financed, and among other items we read with interest the complaint of the parent who objected to the children's rising before daylight to study by candlelight. The subjects which were included in the course of study of that day will be clearly recognized in the descriptions given of the proficiency and defects of the work in the schools.

One conclusion which stands out very clearly from the reading of this report is that the modern system of organizing schools, with its grading and with its regular course of study, has made immense progress as compared with the schools of 1801. We are usually inclined, in our review of the history of American schools, to jump over the long period which lies between the Colonial schools and the modern graded organization and to forget that there was even in New England a long period when the American school was very slightly organized, badly equipped, and supplied with teachers of deficient training. Anyone who looks back to the old schools of a century ago with any disposition to criticize the present school organization should read this report:

> The committee chosen by the town to inspect the schools beg leave to report their situation and examination. They have, in the course of the year, often been impressed with pious joy and delightful wonder to the beneficient Parent of man, for his wisdom and goodness in forming the human mind with a love of knowledge and powers to increase to his utmost energy and perfection.

They have with the most pleasing satisfaction beheld the opening Genius of the rising generation, and have reflected on the vast influence of knowledge in exalting the human character. They have felt their bosoms warmed with gratitude to God for our happy land and free government which esteems all its children equally dear, and with a watchful eye protects them from ignorance and injury.

That we may enjoy these inestimable privileges, much depends on ourselves. Your committee would with respect state one grand objection to knowledge in our school system, a want of convenient rooms for instruction in many districts, is a prevailing evil. The children are crowded into a little dark room, no suitable writing tables, and should one find it necessary to move, ten, perhaps, must leave their business to assist him. A negligence of parents in furnishing their children with books and materials for writing is a careless, though important injury.

A rigid attention to the literary and moral qualifications of our Instructor is indespensably necessary. The committee would propose that in addition to the Selectmen that there be chosen in the school committee a person from each school district. Having promised the foregoing, they proceed to report the state and proficiency of the individual schools. . . . .

Nov. 10th, the committee visited and examined two Schools just opened; one kept in a school house, near Baylies works, of the number of 40 scholars, instructed by Mr. Philip Lee. This School we found to have made but small proficiency in reading, spelling and writing, and to be kept only six or seven weeks; upon inquiry why it should be taught no longer we were informed that the ration of school money for this School was and had been usually expended in paying the Master both for his service and board, and in purchasing the fire wood which is contrary to the usual custom of the town. . . . .

On the 8th day of December they visited a School kept in a School house near Seth Hodges, in number 30 Scholars instructed by Mr. John Dunbar, This School appeared in a good way of learning, and to be keep four months.

On the 17th of December visited, for the second time, Mr. Lee's and Mr. Reed's Schools.

We observed that Mr. Lee's School had made some, tho small further proficiency in reading and spelling. The writers had made more improvement in writing than in reading, for not more than one or two could read the copies which they had written after. Mr. Lee said that he had not had the advantage of instructing them to his satisfaction by reason of their inconstant attention, for some of them had not been to school but a few days since he opened it, on the day of this visit said school ended. . . . .

The other School is kept in the home of Mr. Paul Chase and taught by Mr. Nicolas Stephens, consisting of 30 Scholars, and appears quite in a good way of learning especially in Spelling for scarcely a word passed a scholar misspelled, in writing some did very well and others in arithmetic appeared attentive. . . . .

On the 27 January visited Mr. William Reed's School for the third time, being near its close. This School appeared to have made as great proficiency in all parts of their Learning as possible for children to do. They gave as great and eager attention to their examination, which continued near three hours, as any steady adult people could do. By one parent we were informed that his children would rise in the morning some hours before day and study by candle lights, until he perceiving it injurious, forbid them to arise before day. After the examination several pieces were, by a number of them, spoken with propriety and ability. . . . .

January 1st, 1801. The committee visited a School kept by Mr. John Smith near the neck of land consisting of the number of 25 Scholars. This Scholars were, generally speaking, not so forward in knowledge as might rationally be expected from children, who have the advantage of a central situation. They appeared to enjoy the means of improvement under their present Instructor.

Feb. 26, Mr. Smith School closes, and was again visited, the Scholars appeared to have made a worthy proficiency and claimed our praise. Many of them through the inattention of their parents were in want of books and deprived of the real advantage they might have enjoyed.

Jan. 9th, 1801 visited a School kept by Mr. Thomas Macomber at the house of one Caswel in the precinct of 35 scholars. This School appeared very uncultivated. Many Scholars were not furnished with books, a striking mark of negligence some where. This evil must have a remedy, if we expect to receive the benefit of a school education.

Feby. 23rd, again visited Mr. Macomber's school the scholars remain uncultivated and in a poor way to improve an evident mark of neglect of their parents in furnishing books is a great evil in this school. The committee were unable to judge of the improvement of this school as its situation was changed, and a great part were new faces. Whenever a School changes ground, it ought to be the duty of the School Master to give notice to the Committee for the change is so great that it is almost like closing a School.

January 9th, visited a school in Joseph Deans district, of the number of —scholars. This School appeared exceedingly well, an honour to the district under the instruction of Mr. Stephen Padelford, we hope for great proficiency. A few wanting books, and difficulties in classing others for the want of books of the same kind was the only thing painful. February 19th the committee again visited Mr. Padelfords School, and were highly gratified by the evident proficiency of the scholars. They read with propriety, spelled accurately & wrote with increasing excellence. They gave striking marks both of the assiduity of their Instructor and their own industry and their love of order. . . . .

Feby. 26th, visited Mr. Dean's School 2 time, the Scholars were crowded into a small room, the air was exceedingly noxcious. Many children were obliged to tarry at home for want of room and though the school was kept

only a few weeks they were deprived of its advantages. A want of books was the complaint. The committee were anxiously desirous that this evil might have a remedy and were of opinion it may be easily done. The Scholars appeared to increase in knowledge & claim our approbation.

March 5th, visited two schools, one kept at Mr. Aaron Pratt's of the number of 30 scholars instructed by Mr. Philip Drown. This school appeared quite unimproved and uncultivated in reading and spelling, some of them did better in writing. This uncultivated state did not appear to be from a fault in the children, but, as your committee were informed, from the disadvantage of having had masters illegally qualified for their instruction; of which class is their present master unauthorized by law. . . . .

In performing these visits, and examinations, one thing could not escape the notice of your Committee, it was so perceivable: it is the difference of the learning and cultivation of the minds of those children, whose tuition had been by masters legally qualified, and that of those under the tuition of Masters illegally qualified. This difference exceeded our expectation, and seemed to be as 2 to 1.

The great number of visits has taken up a considerable of your committee's time. However the perception that the mutual exertion of Masters and Scholars has been, thereby, greatly increased; and the pleasing view of the blooming youth of the several schools being engaged in the acquisition of that useful knowledge, which will tend to render them happy to themselves, and happy to their country, gave such pleasing satisfaction to your Committee, that, in their opinion, it is so ample a reward for their time spent in these visits, the year passed, that they chearfully give their services to the Town and public gratis.

[*Unsigned*]

One of the most valuable summaries of the history of American schools which has ever been published has been issued by the Bureau of Education as a bulletin[1]. Mr. Frank F. Bunker, formerly superintendent of schools in Berkeley, California, has traced the historical origins of the different branches of the school system of the United States. He begins by calling attention to the separate development of the colleges, high schools, and elementary schools. He traces in a very interesting chapter the rise of the graded schools in this country. He then shows how the secondary school has passed through several stages of reorganization, until finally it is ready to take on the form which is commonly known as the six-three-three plan. In the later chapters of the monograph he gives

[1] *Reorganization of the Public School System.* By Frank Forest Bunker. Bulletin No. 8, United States Bureau of Education, 1916.

a number of examples of successful organization of this latter type.

The monograph represents a type of history of education which has again and again been commented on in this Journal. Most histories of education contain long discussions of the theoretical background of our present organization, but very little is shown of the actual origins of our present institutions. This one shows in detail why the somewhat indefinite organization of the American elementary school in the early days crystalized into our present eight-year elementary school. The various persons who were active in bringing about this present organization are quoted, and the documents which are significant in determining our present type of organization are referred to in such fashion that the student can come into direct contact with the influences that have made for an eight-year elementary school. A number of quotations are worth repeating to show something of the character of the influences that were actually in operation.

The first quotation which may be borrowed from the monograph shows the motives and sources of ideas of Charles Brooks, one of the early organizers of schools in Massachusetts.

> Charles Brooks, a man whose influence in Massachusetts was great, and who may be said to have prepared the way for the work of Horace Mann, did very much to disseminate knowledge respecting the Prussian system. He was primarily interested in establishing a normal school after the Prussian model, yet, during the campaign which he carried on for this purpose between the years 1835 and 1838, he did not limit himself to the consideration of the normal school alone, but sought to acquaint the people with the details of the German system of elementary education as well. His account of the return trip from England, which he made in company with Dr. H. Julius, of Hamburg, then on his way to America to study our schools, indicates the esteem in which he held the Prussian system:
>
> "A passage of 41 days from Liverpool to New York (with Dr. Julius) gave me time to ask all manner of questions concerning the noble, philosophical, and practical system of Prussian elementary education. He explained it like a sound scholar and a pious Christian. If you will allow the phrase, I fell in love with the Prussian system and it seemed to possess me like a missionary angel. . . . .
>
> "When the doctor came to visit me at Hingham I told him I had been studying the Prussian system for six months, and that I felt called of God to try and introduce it into my native State. He rose from his seat, seized my hands, after the Hamburg custom, and said: 'My friend, you are right; and I

will help you all I can.' He consented to give an account of the Prussian system before the committee on education in our legislature. His delineations were clear and judicious, but so brief as led to no action.

"I opened communication with M. Victor Cousin, the first scholar in Paris, with whom I had become acquainted in 1833. He approved most heartily of my plans, and sent me his histories of the Prussian, Hollandaise, and Bavarian systems of education, and especially normal schools. . . . .

"I studied his books thoroughly, and though I preferred the Holland system of governmental supervision, I concluded to take the Prussian system of State normal schools as my model and guide, and began my public lectures on the whole system in 1835.

"Much depended on a right beginning. I knew that the common people would be more moved by one practical fact than by a bushel of metaphysics. I therefore wrote three enormously long lectures—namely, two hours each. In the first I described minutely the Prussian State system, its studies, books, classification, modes of teaching, government, rewards, punishments, etc.; a perfect catalogue of interesting *facts*. In my second I showed how this new system could be adopted in Massachusetts, and how it would affect every town, every school, and especially every family in the State; yes, I took it in my hands and carried it from house to house, showing the parents how it would benefit their son John and their daughter Mary. In my third I showed that all these great, practical Christian results could be realized by establishing State normal schools, and could not be realized without them; and therefore the proposed school reform must begin with introducing such normal schools."

Henry Barnard, the superintendent of schools in the state of Connecticut, brought about reorganizations in that state which are described and justified in the following paragraphs:

The first step taken in the direction of grouping children of the same ages or attainments in rural schools appears to have been that of merely separating the older from the younger children and employing a man to teach the former and a woman the latter. In his fourth annual report to the Connecticut Legislature (1842) Henry Barnard wrote:

"The evils of crowding children of different ages in a great variety of studies, and in different stages of progress in the same study, under one teacher, have been obviated in more than 100 districts by employing a female teacher for the younger children and primary studies and a male teacher for older and more advanced scholars, and in a few instances by the establishment of a central or union school for the older children of a society, or of two or more districts."

As the school attendance of a given district increased, either through growth of population or through the consolidation of districts, the segregation was carried further by removing the older children to a point central to the joint district, while the younger children were left behind to attend at their

several schools. In describing this arrangement, Henry Barnard, in the report just referred to (fourth), said:

"Provision is made (in the law) for the union of two or more districts, for the purpose of maintaining a union school for the older children of the associated districts, while the younger children are left to attend in the several districts under female teachers.

"The union of school districts thus authorized obviates many of the difficulties and evils of common schools as they are, and secures a much higher degree of improvement with the same means. In a large portion of the district schools the ages of the scholars range from 4 to 16, or, rather, from 3 to 18. The studies extend from the first rudiments to the branches of an academical education; the classes are as numerous as the various studies, increased by the variety of textbooks in the same branch; and the teachers are constantly changing, from male to female, and from season to season.

"Now the plan of union districts, leaving the younger children by themselves, and including the older children together, cuts down by one-half the variety of ages, studies, and classes. It enables the teacher to adopt methods of classification, instruction, and government suited to each grade of school."

These and other citations from the early educational literature of the country show clearly that the school was not a definitely organized institution. Referring back to the report of the Taunton schools, which was quoted on an earlier page, it will be recognized immediately that the length of the school year and the course of study were very limited and irregular. Gradually the influence of the Prussian schools was felt, and the necessities of a more economical and compact organization pushed the school officers in the direction of a more and more definitely organized school system.

The eight-year school was by no means the only outcome of this effort to develop better organization. On p. 35 of Mr Bunker's monograph is a very interesting table compiled from the report of the commissioner of education of the United States, showing that as late as 1871 the legal age and the length of the school course differ very greatly in the different parts of the United States.

Without attempting to give further details of this monograph, we may say in conclusion that it will serve in a large way to persuade many who have been doubtful about the movement in the direction of the junior high school. It contains the most convincing evidence that has ever been presented of the historical tendency toward a modification of our present school organization.

COURSE OF STUDY IN DRAWING IN THE ELEMENTARY SCHOOL, SCHOOL OF EDUCATION, THE UNIVERSITY OF CHICAGO. III

By Members of the Department of Art Education in the College of Education and the Elementary School

WALTER SARGENT
ELIZABETH E. MILLER, Elementary School
MARGARET GORDON, Kindergarten

GRADE IV

Methods and Subject-Matter

I. Continued illustration of themes, with some responsibility for collecting material for data. Some development of a sense of arrangement for effective telling of the story.

The units chosen for illustration in this year are Greek and Roman life, taken from the history. The children make books for their papers and illustrations of Greek life. In order to make pictures for any Greek story they find that they must study Greek buildings and Greek costumes. While the teacher furnishes some of the material needed for this, the children are held responsible for looking up much of their own data. For example, they are encouraged to bring sketches and pictures from home which will give suggestions as to the kind of buildings, designs, or costumes they need, or they take trips to the museum, library, or art institute for this purpose. The notes or quick sketches made for later use are recorded in a small sketchbook which each child owns. Scenes are made which illustrate the literature as well as the history, i.e., some of the adventures of Odysseus, or pictures connected with the fall of Troy.

In connection with the Roman history such illustrations are made as Hannibal crossing the Alps, Cincinnatus at the plow, a Roman wedding, and Horatius at the bridge. Here the children need to represent the geography of the country correctly, as in the case of drawing the Alps or the river Tiber.

II. Special study of a few new shapes, and an elaboration of shapes previously learned:

1. Detailed study of a few animal forms. One or two are studied quite in detail by means of drawing, modeling, and representation with color. The animals learned in this way are horse, dog, cow, buffalo, and camel. Some of these have been drawn in preceding grades, and here are elaborated and represented with correct proportions and more detail in securing general appearance. In connection with the science such shapes are learned as the crayfish, dragonfly, spider, and many kinds of fish. Quick sketches of each of these are made which show the characteristic shapes and different actions.
2. Drawing of leaves and flowers held in different positions. Many of the plants and flowers which were drawn in the lower grades for their general effect are here drawn so that detail of growth is shown.
3. Drawing of objects in different positions. Greek and Roman buildings are drawn, the emphasis being placed upon correct representation of vertical, horizontal, diagonal. The learning of the shapes of Greek and Roman ships is based upon the viking ship which was learned in Grade III.
4. Correct judgment of proportions and special relations:
   a) In objects—slants of lines, proportional relation of parts, e.g., dish and handle, etc.
   b) In plans, sketching of general proportions, e.g., garden plots, etc.
   c) In geometric figures—right angles and squares on given lines. There are two methods of approach to this:
      (1) Estimating from given specifications.
      (2) Feeling for correspondence of shape of object with that of the drawing.
5. The human figure is drawn with fairly good proportions. From pictures, statues, and from children posing in costume, the figure in Greek and Roman costume is drawn. These are drawn in rapidly with the brush as silhouettes, in order to work for proportions.

6. The types of landscape needed in Grade IV review nearly all the types previously learned, and add a few new ones. The main emphasis here comes in representing these old types with the new medium of water colors. The crayon is not disregarded altogether, however.

III. The design includes experiments with conventions or symbols for aesthetic expression, and the decorative or symbolic development of some familiar animal or plant form. This experimentation falls under three heads: .

1. With conventions or symbols whose style is imposed by the material, as in weaving, basketry, mosaic, cross-stitch, etc.
2. With conventions resulting inevitably from repetition of the form from memory until, as in the case of handwriting, it assumes an individual style.
3. With repetition in borders, or in bilateral symmetry involving effects of spacing, reversal, etc.

Through the work with Greek life, an unusual interest in Greek design develops. The children voluntarily bring in sketches and descriptions of Greek design which they have discovered in their homes or buildings, and in other places around them.

The work with decorative units and borders finds application in the weaving and cross-stitch in connection with the work in household arts, the construction work—boxes, book covers, envelopes—and in the clay-modeling—paperweights, tiles, vases, etc.

IV. Water colors and crayons are both used. Familiarity with the new medium involves the experimenting with a new technique in order to produce an effect as good as that obtained with crayons. Much emphasis is placed upon the making of flat washes with the lighter tones. The children are allowed to use the water color freely in trying to match color. Thus they become somewhat used to the medium. It is found that children gain control over this medium so rapidly when it is introduced for the first time in Grade IV that they have lost nothing by using only crayons from the beginning in Grade I.

Standards of Attainment

I. Ability to gather from textbooks and pictures material for illustrating a given theme.

II. Ability to draw with considerable detail, to model in the round, to represent in different positions, and to sketch rapidly with expressive general effect seven or eight birds and animals; to represent leaves and flowers in different positions, including effects of foreshortening; to sketch objects and diagrams in good general proportion; to draw at arm's length on the board, and to sketch on paper, right angles and squares on any given lines; to represent constructed objects in two dimensions, showing general appearance in different positions, and correct proportions; to represent readily landscape involving any kind of mountains, trees, or shoreline; to draw the human figure in any position with fairly good proportions.

III. Ability to appreciate and apply principles of good arrangement in design, and to appreciate and create the more highly conventional decorative units such as would be the result of a material which forces a convention: for example, cross-stitch, weaving.

Ability to print, using single-lined letters, and to fit two words into a given space; also to fit one letter into a geometric figure.

Ability to make decorative units by highly conventionalizing familiar forms with cross-sectioned paper, to be used in weaving or cross-stitch, or by making geometric units: for example, modifying a square by means of corner and side cuts.

Ability to make line borders broken at the corner by a unit.

IV. The use of color freely in all work, water color being used as well as crayons.

Ability to match any color with water color rather than with samples.

Ability to combine elements to make any one color.

The beginning of an appreciation of value, the adding of black and white to a color.

Color in design: ability to make flat washes of light tones. Use of one color with black or white. The color circle is used for the first time.

GRADE V

Method and Subject-Matter

I. Continued illustration of themes with increased responsibility for collecting material for data. Sketchbooks are used for recording illustrative notes. The establishment of a good working method, gained by dealing somewhat thoroughly with one or two themes during the year, is of more value than random illustration of many topics. The gathering of material should be preceded and guided largely by a discussion of the sorts of material needed to illustrate a given topic.

One of the big units of work to be illustrated is the study of corn. In connection with the science the children are studying the stalk, its growth, the products, etc. This calls for detailed drawings of the plant as a whole and of parts of the plant. Drawings of apparatus connected with experiments is necessary. In the literature the class is learning Whittier's poem, "The Huskers," and pictures are made which will represent some stanza or part of the story. Each child makes a book on "Corn"; into which these illustrations are to go. This unit involves illustrative drawing, detailed drawing of selected forms, and design. The children plan the book and decide what things they need to draw for it. They then begin to look up their own material, such as pictures, descriptions, the actual corn stalk, etc.

Another unit of illustrative work comes in connection with the history. The old warriors are studied—the Huns, Franks, Goths. Drawings of these offer a splendid opportunity for study of the human figure in action.

II. Continued study of a few selected forms in addition to those already used in previous grades:

1. Closer study of detail and structure of a few new animal forms and of those already familiar. The horse is a form that was used to some extent in Grades II, III, and IV, but can be drawn with much greater detail and with more variety of action here. The dragon shapes that were learned in Grade III are now used as a basis upon which to draw more elaborate and varied dragons. Careful drawings of certain animals studied in the science work are made.

The knowledge gained in the science study is utilized in making correct drawings of these animal, bird, or insect forms. Different interpretations of these may be made:

a) Quick sketches with pencil or brush from the object or from memory.

b) Careful notes of details of shape and structure and color from pictures and from the object (pencil, brush, color, modeling) guided by specific questions which the drawings are to answer, e.g., regarding shape of bill, head, ears, feet, etc.

2. Similar study of a few plant forms, including the representation of the same form, as flower, or leaf in different positions, with better expression of foreshortening than in Grade IV. The knowledge gained from nature-study is used in making these drawings. The detailed drawings of the cornstalk and of the geranium plant are examples of this.

3. Here in the drawing of the human figure the emphasis is placed upon action; the old warriors make good subjects for illustration. A few definite actions, such as pushing, pulling, carrying loads, activities involved in fighting with swords and spears, occupations, etc., are stressed. The children may see the action, and then represent it largely from memory—seeing it a second or third time if necessary. Or, they may abstract the action lines from given pictures, then clothe these lines from imagination, and add accessories to make the story more complete. After this, comparisons may be made between the resulting forms and the original pictures.

4. Drawing of simple constructed objects in different positions, e.g., water cup placed on a pile of three books, then on two, then on one (or vice versa). Objects like half an apple, or a dish with a handle, may be represented in this way.

5. Correct judgment of proportions or special relations:

a) In objects, slants of lines, proportional relation of parts, e.g., geranium in pot.

b) In maps and plans.

c) In geometric figures, circles, squares, oblongs of given proportions, etc. There are two methods of approach in dealing with this:

(1) Estimating from given proportions.

(2) Feeling for correspondence of shape of object with that of drawing.

6. Continued representation of types of landscape. The forms previously drawn are elaborated and the new forms used in connection with the geography are added.

III. Continued experimentation with conventions or symbols for aesthetic expression, e.g., decorative or symbolic interpretation of some form already familiar (as suggested in Grade IV). The ear of corn, the cornstalk, pieces of armor, the castle, or the dragon, are forms which can be treated decoratively and used as tail-pieces, single decorative units, or units in a border.

The making of books for the science, history, or literature involves much design. More elaborate cover designs can be made here than in previous grades. For example, the problem becomes one of line borders of varying widths interlaced at the corners, or of a decoration which covers nearly the entire page. The relation of spaces is emphasized.

Initial letters are made for certain of the books; title-pages, contents pages, and tail-pieces are designed with great care.

The principles of good composition are applied to the illustrations for the books.

IV. Water colors and crayons are used in connection with all the work. In the study of hue and value, which has a definite beginning in the grade, the children experiment with the color, and finally make a number of color sheets which illustrate the color theory they have learned. The application comes in using the color in the illustrative work.

Standards of Attainment

I. Some training in systematic gathering of data, from text-books, pictures, and objects, for illustrating a given theme.

II. Ability:

1. To draw, model in the round with considerable detail, to represent in different positions, and to sketch rapidly with expressive general effect—from memory—two or three selected birds and animals in addition to those learned in the previous grades. The use of objects, sketchbooks, and picture collections in gathering data for these.
2. To represent leaves and flowers in different positions. To study out effects of foreshortening by means of shadows, pictures, observation of nature, etc.
3. To sketch objects in good general proportion, and to sketch simple groups of two objects to show the relative proportions correctly; to represent some few objects in three dimensions.
4. To draw on paper and at arm's length on the blackboard, right angles, squares, and oblongs, of specified proportions, on any given line; also to draw circles, and to bisect and trisect given lines freehand.
5. To represent the human figure in any position with good proportions, and with more careful drawing of details than previously, i.e., hands, head, and feet.
6. To represent most of the common types of landscape, either with water color, crayon, or on the blackboard with chalk.

III. Ability to recognize and appreciate a good design, either the formal design or the decorative drawing, and to tell wherein it is good. The making of all drawings more or less decorative in character.

Ability to conventionalize by squared paper, mosaic, cross-stitch, weaving, or otherwise, any familiar form for decorative use.

Ability to make line borders, using several lines of varying widths, and to interlace these lines in turning the corners, so that the effect will be pleasing and harmonious.

Ability to print rapidly and well, using the single-lined letters, and to fit several words into a given space, also to fit two or three letters into a given figure, and to make simple initial letters.

IV. The use of water colors and crayons with freedom and confidence.

Ability to match any color with water colors or crayons. The beginning of an appreciation and application of colors in three values. An understanding of the terms value and hue.

Ability to make flat washes, with special emphasis upon dark washes.

TESTS OF EFFICIENCY IN THE RURAL AND VILLAGE SCHOOLS OF SANTA CLARA COUNTY, CALIFORNIA[1]

RICHARD ZEIDLER
Palo Alto, California

The object of this study was to measure the results of arithmetic teaching in the rural and village schools of Santa Clara County, and to ascertain the status of such schools in the teaching of the fundamentals in arithmetic as compared with the work in localities where similar tests have been made. It is to be regretted, however, that the results cannot be compared with those in other rural and village schools. Thus far tests have been made only in cities. The comparison can therefore be made only with cities.

The tests used cover the four fundamental operations in arithmetic, viz.: addition, subtraction, multiplication, and division; and their application shows the children's ability in speed and accuracy. These tests are known as the Courtis Standard Tests.[2]

HOW THE TESTS WERE CONDUCTED

The following instructions, followed by typical examples, illustrate the nature of the tests.

You will be given eight minutes to find the answers to as many of these addition examples as possible. Write the answer on this paper directly underneath the examples. You are not expected to be able to do them all. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

927	297	136	486	384	176	277	837
379	925	340	765	477	783	445	882
756	473	988	524	881	697	682	959
837	983	386	140	266	200	594	603
924	315	353	812	679	366	481	118
110	661	904	466	241	851	778	781
854	794	547	355	796	535	849	756
965	177	192	834	850	323	157	222
344	124	439	567	733	229	953	525

[1] This study was made in connection with a course in rural education at Leland Stanford Junior University, given by Professor J. B. Sears, and was presented as a class report.

[2] S. A. Courtis, *Standard Tests*. 82 Eliot Street, Detroit, Michigan.

You will be given four minutes to find the answers to as many of these substraction examples as possible. Write the answers on this paper directly underneath the examples. You are not expected to be able to do them all. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

115364741	67298125	92057352	113380936
80195261	29346861	42689037	42556840

You will be given six minutes to work as many of these multiplication examples as possible. You are not expected to be able to do them all. Do your work directly on this paper; use no other. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

8236	3597	5739	2648	9537
29	73	85	46	92

You will be given eight minutes to work as many of these division examples as possible. You are not expected to be able to do them all. Do your work directly on this paper; use no other. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

25)6775 94)85352 37)9990 86)80066 73)58765

There were more examples in each of the four sets than the child would be likely to work in the time allowed. The examples were all printed in a folder, and the necessary oral explanations were given by the examiner who timed the pupils and scored the results. Where possible, the pupils were all tested during the same time in each school. The teacher, and the children in the first four grades, left the room, and all occasion for distracting the attention of the children was removed, as far as possible.

THE RESULTS OF THE TESTS

The tables and diagrams given on the pages which follow show the results of the tests.

Table I shows the distribution of children with respect to the number of examples finished. It also shows the full distribution of scores, by grades, for the four subjects, and the median score attained in each case. It will be seen that a wide range of ability characterizes the work in each grade, that all the grades obtain their highest scores in subtraction, and that a very marked falling off

in division is shown by the fifth and sixth grades. It will be seen that practically 50 per cent of the children in the fifth grade fail completely in division, and 32 per cent of the sixth grade do the same.

TABLE I

ADDITION (TIME 8 MINUTES)

Grade	Total Papers	Number of Examples Worked																									Median Score
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	7	8	17	14	21	16	17	8	9	6	4	4	2	1	3	2	..	..	1	..	..	..	..	..	..	4.3
VII..	161	12	18	19	19	24	12	23	11	9	3	3	3	4	1	..	..	..	..	..	..	..	..	..	..	..	3.5
VI...	134	12	24	27	24	15	11	5	7	7	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2.3
V....	152	31	27	23	22	23	10	7	1	2	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.8

SUBTRACTION (TIME 4 MINUTES)

Grade	Total Papers	Number of Examples Worked																									Median Score
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	1	2	4	8	9	16	16	16	11	14	12	8	8	8	3	3	1	..	..	..	1	..	..	..	..	6.8
VII..	161	2	4	9	24	9	28	16	17	13	10	17	4	5	1	..	1	..	..	1	..	..	..	1	..	..	5.2
VI...	134	11	13	14	21	18	18	9	13	3	8	3	2	..	..	1	..	..	..	..	..	..	..	..	..	..	3.5
V....	152	20	16	18	25	20	14	15	9	8	1	5	2	1	..	..	..	..	..	..	..	..	..	..	..	..	2.8

MULTIPLICATION (TIME 6 MINUTES)

Grade	Total Papers	Number of Examples Worked																									Median Score
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	4	7	8	10	16	17	16	16	9	7	8	5	3	1	1	1	..	..	..	..	..	..	..	..	..	4.9
VII..	161	7	17	26	22	21	19	17	7	8	7	6	4	1	..	..	..	..	..	..	..	..	..	..	..	..	3.4
VI...	134	16	23	20	20	25	10	4	6	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2.5
V....	152	50	29	17	20	13	17	7	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.25

DIVISION (TIME 8 MINUTES)

Grade	Total Papers	Number of Examples Worked																									Median Score
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	7	8	7	18	22	13	13	15	6	6	6	5	6	3	2	1	1	..	..	..	..	..	..	..	..	4.5
VII..	161	13	15	21	27	22	8	21	11	9	7	3	2	1	..	..	2	..	..	..	..	..	..	..	..	..	3.2
VI...	134	43	21	24	19	12	3	6	2	1	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1.6
V	152	75	24	19	14	11	6	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.5

From the test, the median child may be expected to work examples at the following rates (using eight minutes each for addition and division, four minutes for subtraction, and six minutes for multiplication): In the fifth grade he can add 1.8 examples, subtract 2.8, multiply 1.25, and divide 0.5. In the sixth grade he can add 2.3 examples, subtract 3.5, multiply 2.5, and divide 1.6. In the seventh grade he can add 3.5 examples, subtract 5.2, multiply 3.4, and divide 3.2. In the eighth grade he can add 4.3 examples, subtract 6.8, multiply 4.9, and divide 4.5.

SANTA CLARA COUNTY COMPARED WITH A GROUP OF SMALL CITIES, AND WITH TWO WESTERN CITIES

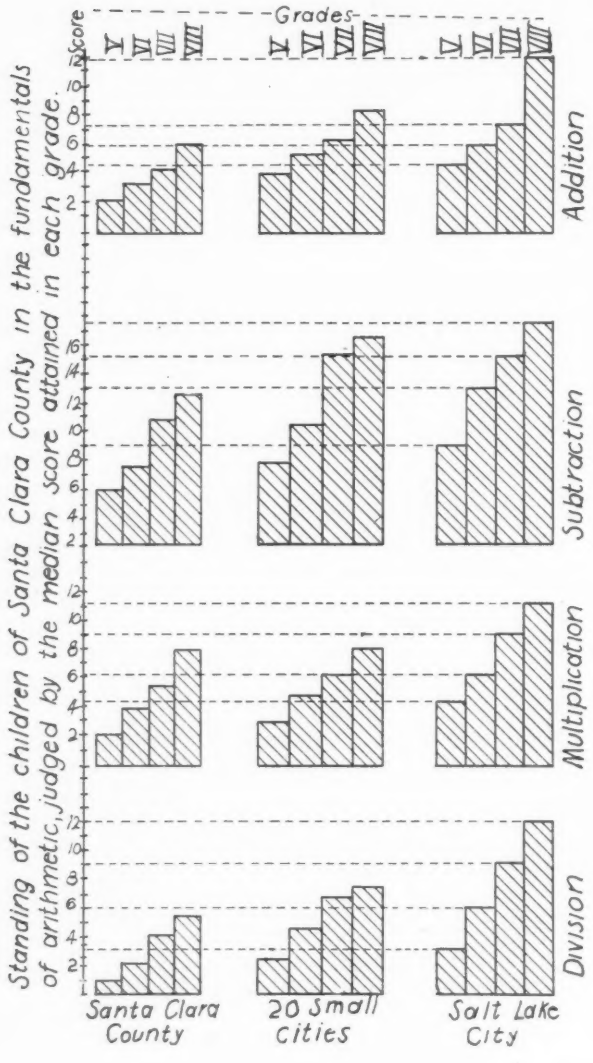
Table II shows the full details of the standing of the rural and village schools of Santa Clara County in the fundamentals of arithmetic as compared with a group of twenty small cities in the Middle West, and with two western cities.

TABLE II

THE STANDING OF THE RURAL AND VILLAGE SCHOOLS OF SANTA CLARA COUNTY IN THE FUNDAMENTALS OF ARITHMETIC AS COMPARED WITH A GROUP OF TWENTY SMALL CITIES AND TWO WESTERN CITIES

Addition					Multiplication			
V	VI	VII	VIII		V	VI	VII	VIII
4.1	6.4	6.9	8.5	.....Salt Lake City, Utah.....	3.8	4.8	6.0	7.5
2.9	3.4	3.8	5.3	.....Butte, Montana.....	4.1	5.0	6.5	8.1
3.9	4.4	4.7	5.6	.....Group of Small Cities.....	2.6	4.5	5.2	6.4
1.8	2.3	3.5	4.3	.....Santa Clara County.....	1.25	2.5	3.4	4.9
Subtraction					Division			
5.2	7.8	8.8	9.8	.....Salt Lake City, Utah.....	3.0	5.5	7.7	9.5
2.9	3.4	3.8	5.3	.....Butte, Montana.....	3.6	4.3	7.2	10.2
4.5	6.1	7.8	8.4	.....Group of Small Cities.....	2.3	4.3	5.8	6.3
2.8	3.5	5.2	6.8	.....Santa Clara County.....	0.5	1.6	3.2	4.5

From these tables it will be noted that the rural and village schools in Santa Clara County, in every subject and in every grade, fall below the median scores for the cities. This inferiority ranges as high as 600 per cent, as is shown in division in the fifth grade of


Standing of the children of Santa Clara County in the fundamentals of arithmetic, judged by the median score attained in each grade.
Grades
Score
Addition
Subtraction
Multiplication
Division
Santa Clara County
20 Small Cities
Salt Lake City

Santa Clara County compared with fifth-grade division in Salt Lake City, Utah. It must be admitted, however, that Salt Lake City has an enviable record. Fig. 1 presents these data graphically and by following the dotted line across the page it will be seen that rural and village schools of Santa Clara County fall, on the average, fully two grades below Salt Lake City, and one grade below the twenty small cities. Why so vast a difference between rural and city schools?

TABLE III

ADDITION (TIME 8 MINUTES)

Grade	Total Papers	Number of Examples Attempted																								Median Attempts
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	..	..	..	..	..	5	3	11	13	20	22	18	10	11	5	3	2	4	3	3	1	..	..	..	1	1	8.8
VII..	161	1	..	..	..	3	5	17	25	13	34	23	15	6	5	5	3	3	3	..	..	..	..	..	..	..	..	7.5
VI...	134	..	..	3	5	13	21	25	15	23	9	9	6	1	1	1	..	..	..	..	..	..	..	..	..	..	..	6.1
V....	152	..	2	2	17	15	27	23	20	17	14	10	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	5.5

SUBTRACTION (TIME 4 MINUTES)

Grade	Total Papers	Number of Examples Attempted																								Median Attempts
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	..	..	..	..	1	1	6	7	11	12	19	17	14	19	10	6	3	2	3	3	..	1	2	..	..	..	9.8
VII..	161	..	..	..	..	..	3	12	13	26	23	18	17	23	11	3	6	..	..	2	1	2	1	..	..	..	1	7.5
VI...	134	..	..	2	7	6	10	34	20	21	10	9	6	4	2	..	1	..	..	..	1	..	..	..	..	..	..	6.4
V....	152	2	2	6	5	18	29	26	22	18	7	11	1	3	2	..	1	..	..	..	..	..	..	..	..	..	..	5.5

MULTIPLICATION (TIME 6 MINUTES)

Grade	Total Papers	Number of Examples Attempted																								Median Attempts
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	1	..	..	2	3	7	21	26	21	16	9	11	6	5	2	4	2	2	1	..	..	..	..	..	..	..	7.5
VII..	161	1	..	3	6	12	19	37	24	9	15	14	12	3	3	2	..	2	..	..	..	..	..	..	..	..	..	6.1
VI...	134	2	2	7	14	19	33	25	14	9	2	1	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	4.8
V....	152	4	11	15	24	25	25	26	14	6	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3.9

TABLE III—*Continued*

DIVISION (TIME 8 MINUTES)

Grade	Total Papers	Number of Examples Attempted																								Median Attempts
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VIII	140	..	2	3	3	11	15	17	17	22	10	10	6	8	7	1	4	1	1	..	..	..	..	..	..	..	7.1
VII	161	..	..	5	15	24	33	22	14	16	7	13	4	2	2	..	2	2	..	..	..	..	..	..	..	..	5.9
VI	134	5	5	12	23	30	24	12	4	8	3	2	2	..	2	1	..	..	..	..	..	..	..	..	..	..	3.8
V	152	10	20	21	18	26	30	12	9	5	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	3.3

THE MEASURE OF ACCURACY

The foregoing material has dealt only with examples correctly worked, and does not show how many were attempted or how accurate the work of the pupils really is. Table III shows the dis-

TABLE IV

SHOWING THE MEDIAN NUMBER OF EXAMPLES TRIED AND THE MEDIAN NUMBER CORRECTLY WORKED IN THE RURAL AND VILLAGE SCHOOLS OF SANTA CLARA COUNTY, AND THE PERCENTAGE OF EXAMPLES TRIED WHICH WERE CORRECTLY WORKED IN SANTA CLARA COUNTY AS COMPARED WITH SALT LAKE CITY AND TWENTY SMALL CITIES IN THE MIDDLE WEST

Subject	Grade	Santa Clara County Median		Percentage of Examples Correctly Worked		
		Attempts	Rights	Santa Clara County	Salt Lake City	20 Small Cities
Addition	VIII	8.8	4.3	48.9	88.8	56.8
	VII	7.5	3.5	46.7	75.8	60.5
	VI	6.1	2.3	37.5	81.0	59.4
	V	5.5	1.8	32.5	36.9	54.5
Subtraction	VIII	9.8	6.8	69.4	83.1	68.5
	VII	7.5	5.2	69.3	87.1	73.0
	VI	6.4	3.5	54.7	91.7	76.4
	V	5.5	2.8	50.9	69.3	79.5
Multiplication	VIII	7.5	4.9	65.3	76.8	61.9
	VII	6.1	3.4	55.7	82.5	67.1
	VI	4.8	2.5	52.1	66.8	68.6
	V	3.9	1.25	32.1	65.1	71.5
Division	VIII	7.1	4.5	63.4	92.2	57.8
	VII	5.9	3.2	54.2	88.5	84.2
	VI	3.8	1.6	42.1	82.1	78.8
	V	3.3	0.5	15.1	68.2	85.8

tribution of children with respect to the number of examples *attempted*. It also shows the full distribution of attempts by grades for the four subjects, and the median number of attempts in each case. By dividing the medians of this table by the medians in Table I, we obtain the percentage of examples correctly worked, as shown in Table IV. This is the percentage of accuracy. Table IV therefore shows the median number of examples correctly worked in the rural and village schools of Santa Clara County, and it also shows the percentage of examples tried which were correctly worked in Santa Clara County as compared with Salt Lake City, and with twenty small cities in the Middle West.

By looking more closely at Table IV it will also be noted that, generally speaking, where the attempts and the rights are the highest, the percentage of accuracy is also the highest. In other words, those children who surpassed in speed also surpassed in accuracy. Table V shows this fact more clearly than does Table IV. In this table Santa Clara County is compared with the Courtis standardized

TABLE V

SANTA CLARA COUNTY COMPARED WITH THE COURTIS STANDARD SCORES

SUBJECT	GRADE	COURTIS STANDARD			SANTA CLARA COUNTY		
		Attempts	Rights	Percentage of Accuracy	Attempts	Rights	Percentage of Accuracy
Addition	VIII	9.7	5.6	57.7	8.8	4.3	48.9
	VII	8.9	4.7	52.8	7.5	3.5	46.7
	VI	8.0	4.4	55.0	6.1	2.3	37.5
	V	7.1	3.9	54.9	5.5	1.8	32.5
Subtraction	VIII	11.7	8.4	71.8	9.8	6.8	69.4
	VII	10.2	7.8	76.4	7.5	5.2	69.3
	VI	8.9	6.1	67.5	6.4	3.5	54.7
	V	6.5	4.5	69.2	5.5	2.8	50.9
Multiplication	VIII	9.9	6.4	64.6	7.5	4.9	65.3
	VII	8.4	5.2	61.9	6.1	3.4	55.7
	VI	7.2	4.5	62.5	4.8	2.5	52.1
	V	6.0	2.6	43.3	3.9	1.25	32.1
Division	VIII	8.8	6.3	71.6	7.1	4.5	63.4
	VII	7.6	5.8	76.3	5.9	3.2	54.2
	VI	5.8	4.3	74.1	3.8	1.6	42.1
	V	4.5	2.3	51.1	3.3	0.5	15.1

TABLE VI

SHOWING THE DIFFERENCES IN RESULTS OBTAINED IN DIFFERENT GROUPS OF SCHOOLS

SUBJECT	GRADE	ONE-ROOM SCHOOLS			TWO-ROOM SCHOOLS			THREE-ROOM SCHOOLS			VILLAGE SCHOOLS OF FOUR OR MORE ROOMS		
		Median Attempts	Median Rights	Percentage of Accuracy	Median Attempts	Median Rights	Percentage of Accuracy	Median Attempts	Median Rights	Percentage of Accuracy	Median Attempts	Median Rights	Percentage of Accuracy
Addition...	VIII	8.4	3.2	38.1	9.7	5.0	51.5	8.0	4.5	55.0	8.1	4.4	54.3
	VII	7.0	3.4	48.6	7.8	3.8	48.7	8.0	6.0	75.0	7.2	9.2	40.2
	VI	5.4	1.5	27.8	6.5	2.7	41.5	4.9	2.7	55.1	7.0	2.1	30.0
	V	3.9	1.1	28.2	5.4	2.3	42.6	4.8	1.5	31.2	6.0	2.0	33.3
Subtraction	VIII	8.5	6.5	76.4	10.6	8.0	75.5	9.7	7.5	77.3	9.0	6.2	68.8
	VII	8.6	6.2	72.1	8.0	4.7	58.7	10.0	6.9	69.0	6.9	4.6	66.6
	VI	6.4	3.5	54.7	6.5	3.0	46.1	6.2	3.9	62.9	7.5	4.0	53.3
	V	4.9	2.2	44.9	5.5	2.9	52.7	6.3	3.5	55.5	5.7	2.7	47.3
Multiplication.....	VIII	7.2	6.4	88.8	7.8	5.3	67.9	7.8	6.0	76.9	7.0	4.2	60.0
	VII	6.5	5.2	80.8	5.7	2.9	50.8	8.9	5.1	57.3	5.5	3.2	58.1
	VI	5.4	2.0	37.0	4.4	2.6	59.1	4.9	3.2	65.3	4.9	2.0	40.8
	V	3.5	1.0	28.5	4.0	1.0	25.0	4.7	2.3	48.9	3.6	0.9	25.0
Division....	VIII	7.4	5.0	67.5	7.5	5.2	69.3	8.0	5.5	68.7	6.2	3.5	56.4
	VII	6.6	4.5	68.2	5.0	3.0	60.0	9.0	6.5	72.2	4.5	2.5	55.5
	VI	3.9	1.0	25.6	3.7	0.5	13.5	3.9	2.0	51.2	4.1	1.5	36.5
	V	2.9	0.4	13.7	3.2	0.4	12.5	4.0	1.7	42.5	3.5	0.35	10.0

tests. It will be seen here that the attempts, rights, and percentage of accuracy are all above those of the rural and village schools of Santa Clara County with the single exception of the standard for eighth-grade multiplication.

COMPARISON OF DIFFERENT GROUPS OF SCHOOLS

Table VI shows the differences in results obtained in different groups of schools. Some startling surprises await us when we examine the table. It can be seen that the one-room rural schools, where but one teacher teaches all of the eight grades, obtain better results in accuracy than do the two-room schools, where the eight grades are divided between two teachers; the three-room schools obtain better results in accuracy than do the other three groups; and the village schools fall below the one-, two-, and three-room rural schools. The village schools fall below not only in accuracy, but also in the number of examples attempted, and in the number of examples correctly worked. We naturally ask, What is the reason for this? Or rather, how is it possible? I have in mind particularly one district where the building is a frame shack, built in 1857, nearly three-quarters of a century ago, dilapidated now, and so unsanitary that a person risks his life in entering it. The cattle in the immediate vicinity are housed under more attractive, sanitary, and one is tempted to say, more humane, conditions than are these children during the greater part of their waking hours. The teacher here is her own janitor, and has to teach with practically no apparatus. But I do not wish to leave the impression that all the one-room rural schools in Santa Clara County are like this. I recall with pleasure another district, where the school building and surroundings furnish a home for the children during the day in every sense of the word. It contains a classroom well heated and ventilated, with adjustable seats, all modern apparatus; a library with table and chairs and leaded-glass bookcases; and a combination dining-room and kitchen, furnished with china and cooking-utensils, where a warm lunch is served daily to the children.

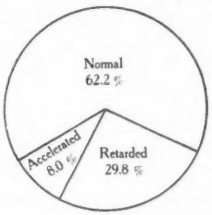


FIG. 2.—Total normal, accelerated, and retarded children.

TABLE VII

AGE DISTRIBUTION OF CHILDREN AND AVERAGE SCORES

AGE	GRADE VIII					GRADE VII					GRADE VI					GRADE V				
	No. in Each	A	S	M	D	No. in Each	A	S	M	D	No. in Each	A	S	M	D	No. in Each	A	S	M	D
18	1	5	3	4	0	1	7.0	10.0	6.0	6.0	.....	.....	.....	.....	.....	1	4.0	4.0	0.0	0.0
17	1	3	4	4	3	1	4.0	5.0	1.0	1.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	10	4.9	6.5	4.0	3.6	3	3.0	5.7	3.0	2.0	1	7.0	9.0	11.0	1.0	.....	.....	.....	.....	.....
15	22	5.6	7.6	6.1	5.8	13	4.6	8.5	5.5	6.3	6	3.2	4.0	4.4	2.1	2	0.0	0.0	0.0	0.0
14	**55**	**5.0**	**7.6**	**5.8**	**5.5**	31	3.7	5.0	3.3	2.8	9	2.7	4.1	2.8	1.2	6	2.4	3.0	2.6	1.2
13	**39**	**5.6**	**8.0**	**6.3**	**6.2**	**51**	**5.4**	**6.4**	**4.3**	**4.8**	25	2.9	3.5	2.5	1.8	15	1.8	3.6	1.8	1.3
12	9	5.4	9.1	6.2	6.8	**50**	**4.3**	**6.1**	**2.7**	**4.4**	**41**	**3.1**	**3.8**	**3.1**	**1.9**	26	2.2	3.3	1.9	1.3
11	.....	.....	.....	.....	.....	10	2.8	6.0	4.8	4.4	**37**	**3.2**	**4.4**	**2.9**	**2.2**	**36**	**2.9**	**3.4**	**2.3**	**1.6**
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	3.0	4.8	3.6	3.3	**54**	**2.7**	**2.1**	**1.8**	**1.1**
9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	3.7	4.4	2.5	1.1
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The two schools described furnish extreme illustrations. The village schools on the whole are better equipped, better graded, and have older and more experienced teachers than have the rural schools.

The time allotment for arithmetic, as laid down in the course of study, is equal for all the schools. But why these differences in results? If I were to suggest that one fundamental reason may be found in the method of selecting teachers, and their tenure in office, it might be thought that I was becoming personal! In the school making the poorest showing, every teacher is a home product, and most of them attend the church with which the members of the school board are affiliated.

PROGRESS OF THE CHILDREN

Table VII shows the age distribution of the children and their average score in arithmetic. From this table Table VIII was compiled, showing, in a rather general way, the number and percentage

TABLE VIII

NORMAL, ACCELERATED, AND RETARDED BY GRADES

GRADE	NORMAL		RETARDED		ACCELERATED	
	No.	Per cent	No.	Per cent	No.	Per cent
VIII.....	94	68.6	34	24.8	9	6.6
VII.....	101	63.1	49	30.6	10	6.3
VI.....	78	58.1	41	30.7	15	11.2
V.....	90	59.1	50	33.0	12	7.9

of normal, accelerated, and retarded pupils in the rural and village school of the county. But since the grades are not divided into upper and lower divisions, and the schools have no half-yearly promotions, the number of normal, accelerated, and retarded children cannot be accurately determined. No doubt the number of retarded and accelerated pupils would be considerably higher if there were more accurate grading and half-yearly promotions.

Since it is the object of the school to work for the welfare of the individual child, it is of great importance to consider the retarded

and accelerated children as well as the normal ones. The recognition and analysis of the differences among children call for greater attention than is usually given. Especially is this true in the rural districts. Children ordinarily enter the first grade at the age of six years, and complete the eighth grade at the age of fourteen years. Those who accomplish this have made normal progress. It is for these that the course of study and the system of grading is best adapted. Those who complete the eight grades in less than eight years, or whose ages are less than those of the pupils whose progress is normal, are said to be accelerated. Those who require more than eight years to finish the eight grades, and who are older than the normal children, are said to be retarded.

The first significant fact in Tables VII and VIII is that the number of accelerated and retarded pupils is considerably greater than is usually supposed; and the second, that the greater the retardation, the lower is the number of problems worked and the lower their percentage of accuracy. And the converse is also true.

The rural and village schools are doing but very little to meet the needs of their exceptional children. The bright ones are held back and acquire habits of carelessness and idleness, while the dull ones are compelled to take the work over and over, and hence offer severe problems of discipline. The writer has in mind one boy who at the age of nineteen years was doing unsatisfactory work in the fifth grade. After being tested with the Binet-Simon scale of intelligence test he was found to have the mental age of eight and a fraction years. In all probability he will never exceed the mentality of the average ten-year-old boy. It is useless to attempt to teach him the subjects found in the old traditional curriculum. This is but one of a fairly large number of hopeless cases of this sort.

Retardation is caused not only by mental deficiency, but a great many other causes might also be mentioned, viz.: poor home conditions, physical ailments (under the latter may be included malnutrition, which is not so much a lack of food, but improper food), poor vision, defective hearing, enlarged tonsils, defective teeth, etc. Difficulty with the English language, lack of application, poor attendance, laziness, late entering, and delinquency are responsible for slow progress also. It is observed that many of these causes

are closely related, and after careful analysis and inquiry into the exact conditions, they can all be put under the following classification, viz.: mental deficiency, lack of medical supervision, and poor home conditions. Physical defects and ill health are probably the most potent causes of retardation.

CONCLUSION

The object of this study has not been to pull to pieces, or to tear down and destroy, nor to criticize adversely, but to gather facts. The findings, on the whole, have been contrary to expectations. And a final word as to the use of standard tests seems to be in place. I can do no better than quote Professor Sears in his recommendations to the Salt Lake City schools:

> Teachers should become familiar with such scales and tests as have been used here, not with how they were made, but with how to use them. The teacher who is able to measure her own product, or to have it measured by the supervisor, will develop confidence in her methods or discover reasons for changing them.
>
> As an instrument in supervision, tests are indispensable. Of course tests can never displace constructive helpful criticism, but standardized tests furnish a rational basis for such criticism, without which the best supervision is handicapped. So far as we observed, they are being properly used by the principals and supervisors, but they may even go farther in displacing the ordinary forms of school examinations.[1]

[1] J. B. Sears, *Report of a Survey of the School System of Salt Lake City Utah*, p. 186.

TESTING THE SPELLING ABILITIES OF IOWA SCHOOL CHILDREN BY THE BUCKINGHAM SPELLING TESTS

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The following study concerns the spelling abilities of 8,624 Iowa school children in 10 cities, approximately 1,500 children in each grade from the third to the eighth inclusive. The cities are Boone, Centerville, Algona, Grinnell, Ames, Creston, Ft. Dodge, Dubuque, Ottumwa, and Sioux City. In all, 1,503 third-grade children were tested; 1,599 children in the fourth grade; 1,441 in the fifth grade; 1,525 in the sixth grade; 1,361 in the seventh grade, and 1,195 in the eighth grade. The tests were given in order to determine whether or not Iowa children are as proficient in spelling as children in other states. For this purpose modified forms of Buckingham's tests in spelling were used.

Nature of the tests.—There were three tests in the series. Test No. I was composed of 50 words which most children in the third and fourth grades, according to Buckingham, should be able to spell correctly. Test No. II was composed of 50 words which most children in the fifth and sixth grades should be able to spell correctly. Test No. III was composed of 50 words which most children in the seventh and eighth grades should be able to spell correctly.

The reader will remember that Buckingham has given us lists of words together with the average number of times each word was spelled correctly by children in a given grade throughout the United States. In this way the average difficulty of a particular word for a particular grade was determined. For example, Buckingham found that the word "doctor" is on the average spelled correctly by 55 out of every 100 children in the third grade, and by 75 out of every 100 children in the fourth grade. If enough words are taken and their difficulty is determined for each grade, we have what may be called a standard spelling test. That is, we know that on the average a certain percentage of the children in a given grade

will spell correctly a given list of words. Buckingham found, for example, that 90 per cent of 485 fourth-grade children in eight cities spelled the word "found" correctly, while only 42.7 per cent spelled the word "handkerchief" correctly.

Reliability of tests in spelling.—The questions arise: Is it possible to test the spelling ability of a grade? Can the spelling ability of the third grade, for instance, be determined? What is the value of determining the ability of a particular grade? One value which every superintendent and teacher will readily recognize lies in the ability of the teacher or superintendent accurately to compare a given grade in one school system with the same grade in another system. At present, without knowing the ability of a particular grade, it is impossible to compare the third grade of one city with the third grade of another city. It is chiefly for comparative purposes that such tests are invented, and for such purposes they serve very well. They also undoubtedly stimulate the initiative of individual teachers. If a teacher finds that her grade is consistently superior, she is eager to maintain that superiority. If, on the other hand, she finds that her grade is consistently inferior, she is more curious as to the reason and more careful in her manner of remedying the deficiency.

The accuracy of a standard test in spelling depends upon several factors. First of all, it depends upon the word-list. At present we do not know what words ought to be taught in a particular grade. Professor Jones's study comes nearest to giving us this fact, but neither Ayers nor Buckingham has used Jones's study; consequently it is impossible to say whether or not the word "doctor" should occur in the fourth grade or the sixth grade. If it is not a third-grade word, it is obvious that there is no need of offering it in a test. The first necessity is, then, to determine the words that ought to appear in a given grade. Until this is done all standard tests in spelling are open to criticism. After the word-list has been determined, it is necessary to make sure that typical children are tested. Buckingham and Ayers are both very careful in this, and their tests are undoubtedly very accurate.

Method of giving the Buckingham tests.—In order that the conditions under which the tests were given in the 10 Iowa cities might

be uniform, a request was sent to a number of superintendents of schools asking them to have the tests given during a certain week. The tests and the directions for giving the tests were as follows:

1. The fifty words are combined into sentences as given in dictations I, II, and III, which follow.

2. The teacher should dictate each of the sentences to all the children in the grade. Have each child write each sentence, spelling as many words as he can.

3. See that each sheet upon which the child writes is headed with (*a*) his or her name, (*b*) the date, (*c*) the grade, e.g., 4*a*, 2*b*, etc., (*d*) the name of the school, (*e*) the name of the teacher.

4. Each sentence should be dictated, either in whole or in part, as many times as may seem necessary to secure its complete understanding. This exercise is purely a test in spelling to see how this grade compares with other grades in this and other places. It is not intended that pupils should be subjected to the added difficulty of an effort to recall the words dictated.

5. Do not drill upon these sentences or upon the words in the sentences before finishing the dictation. Offer no explanation of words or sentences. If the meaning is not clear, repeat the sentence as a whole or in part.

6. After the children have written a sentence, read it again, and allow them to insert words or make corrections, but do not suggest corrections.

7. Do not ask the children to underline words or otherwise call their attention to the significant words of the sentences.

8. In correcting the papers score as wrong any variation, no matter how slight, from the dictated form. Put a circle around each misspelled word, so that the number of errors may be more easily counted.

9. Carefully figure out the number of times each word was tried and the number of times it was spelled correctly, and incorrectly, by the children in each grade.

Spelling Test No. I

(for third and fourth grades)

Dictate these sentences:

1. The *doctor made much money.* There was a *water basin* in his *large office.*
2. We *buy coffee, sugar,* and *meat* at the *store.*
3. The *monkey* ate a *peach,* an *orange,* and *some corn.*
4. *Birds come* to the *iron fence* near the *garden* at *supper* time.
5. I was *once afraid* of the *thunder* and *noise.*
6. I *found* I *could read letters.*
7. She has *written* a *story* this *week.*
8. In *arithmetic* we *subtract. Many* of us are *wrong* and *none right.*
9. I *laid* the *soap* in the *window* near the *board.* I put the *pencil* in my *pocket.*
10. The *bridge* is *already* full of *holes.*

SPELLING TEST NO. II

(FOR FIFTH AND SIXTH GRADES)

Dictate these sentences:

1. I *found* a *handkerchief* in the *parlor Wednesday, February* first.
2. I had a *chance* to *buy* a *banana* for a *nickel* from the *brave* old *captain.*
3. *According* to the *story,* the *bicycle caught* up with the *sleigh before* one *o'clock.*
4. When he was *nineteen* he was so *hoarse* that his *voice* was a *whisper.*
5. The *pistol* and *scissors* are *excellent* but *cheap.*
6. *Nobody knew* in what *manner* the *dessert* was made.
7. The *umbrella* I *decided* to *accept, already* has *many holes.*
8. We heard the *cough* of the *elephant* from the *engine.*
9. If your *ankle aches* you can get *medicine* at little *expense* from the *store* on the *avenue.*
10. We can get a *cabbage* and a *tomato apiece* from our *fertile fields.*

SPELLING TEST NO. III

(FOR SEVENTH AND EIGHTH GRADES)

Dictate these sentences:

1. The *mosquito* is *guilty* of carrying *contagious disease.*
2. The *consequences* of *ignorance* and *error* are *disaster.*
3. It is *impossible* to *prepare* the *difficult* lesson in *grammar.*
4. The *attorney* for the *innocent* man *recommended* that he be granted a *license.*
5. The *address* by the *principal* was *extraordinary.*
6. The *emperor* lives in a *palace.* He is an *independent sovereign.*
7. The *colonel,* the *lieutenant,* the *secretary,* and the *chauffeur declared* the *physician* was a *villain.*
8. The *committee apologizes* for the *occurrence* in the *ancient cemetery.*
9. The *choir* sang a *favorite hymn* at the *marriage.*
10. In my *judgment* we should *separate* the *millinery* shop from the *stationery* store.
11. Let us *proceed* with our *journey.*
12. I shall *explain* the *difference* to my *associates* at the first *convenient opportunity.*

Method of tabulating the results.—The teachers in the schools giving the tests were asked to score the papers and to return to the writer a copy of their score sheet. The accuracy with which teachers performed this duty cannot be determined exactly. It is of course true that even with so simple a test as spelling there is a great variety of methods of scoring, and undoubtedly teachers were

not uniform in their practice. On the other hand, the returns show marked uniformity. For example, we find that in the United States as a whole, 55 out of every 100 children of the third grade spelled the word "peach" correctly, while in the state of Iowa the word "peach" was spelled correctly by 70 out of every 100 children in one city, 87 in another, 71, 72, 72, 89, 81, 73, 65, 74, respectively in eight other cities. This would show rather uniform results and an average for Iowa of about 15 per cent above that of other cities in the United States.

Results for the third grade.—Table I gives the results for the third grade. The Roman numerals across the top of the table refer to the cities. Thus, I means Boone; II, Centerville; III, Algona; IV, Grinnell; V, Ames; VI, Creston; VII, Fort Dodge; VIII, Dubuque; IX, Ottumwa, and X, Sioux City. The third column from the right contains the average percentage for 10 Iowa cities. Thus, 63 under this column and opposite the word "doctor" means that on the average 63 per cent of 1,503 third-grade children in 10 Iowa cities spelled the word "doctor" correctly. The next to the last column at the right contains the percentage as given by Buckingham for 451 third-grade children in 6 cities of the United States. By comparing the percentage made by the third-grade children of one city with the percentage made by the third-grade children in another city, it is possible to tell which of two cities is most efficient. In the same way it is possible to compare the percentage obtained by the state as a whole with the percentage for the United States. The last column at the right shows the difference between the average for Iowa and for the United States.

Gain for Iowa.—The most surprising and gratifying result of this test is the fact that Iowa third-grade children consistently spell better than children in the same grade in other cities of the United States. As shown in the last column at the right, a larger percentage of Iowa third-grade children spell correctly 49 of the 50 words in the test. In the spelling of the word "pencil" the average percentage for Iowa is lower than for the United States. The average gain for Iowa over the United States is obtained by adding the gain on each word and dividing by 50. The average gain for Iowa is 13.7 per cent. In other words, Iowa third-grade

children, as measured by this test, spell over 13 per cent better than third-grade children in the United States as a whole.

TABLE I

PERCENTAGE OF WORDS CORRECTLY SPELLED BY THIRD-GRADE CHILDREN IN 10 IOWA CITIES

No. of Pupils	I	II	III	IV	V	VI	VII	VIII	IX	X	Av. 10 Iowa Cities	Av. 6 U.S. Cities	Gain for Iowa
	199	173	64	88	52	106	232	286	152	151	1,503	451	
doctor	45	83	82	65	73	77	54	37	60	61	63	55	8
made	81	91	67	77	86	87	86	84	89	89	83	64	19
much	77	87	71	80	80	85	84	81	82	92	81	68	13
money	43	70	56	69	63	90	77	55	80	77	68	62	6
water	76	84	84	88	92	80	87	77	93	95	85	65	20
basin	33	62	26	50	47	25	27	25	41	45	38	18	20
large	63	87	84	75	84	81	78	80	94	89	81	60	21
office	50	75	65	80	61	69	69	49	58	82	65	65	0
buy	59	74	51	50	56	77	75	50	86	70	64	50	14
coffee	44	80	60	63	69	55	75	67	57	79	64	48	16
sugar	48	68	70	65	68	60	76	70	48	73	64	53	11
meat	78	86	79	85	88	90	90	88	86	98	86	71	15
store	73	90	78	62	74	82	89	88	88	98	82	73	9
monkey	47	63	78	76	77	87	74	49	71	65	68	48	20
peach	70	87	71	72	72	89	81	73	65	74	75	55	20
orange	57	59	64	39	68	65	63	68	57	54	59	41	18
some	91	85	79	72	90	80	88	87	86	91	84	70	14
corn	84	91	92	84	90	92	92	86	89	96	89	69	20
birds	79	89	71	68	92	84	77	70	81	92	81	76	5
came	96	92	85	86	98	89	94	94	96	96	92	88	4
iron	55	64	45	63	60	82	66	47	71	58	61	46	15
fence	57	62	75	73	64	81	70	58	59	76	67	51	16
garden	72	80	67	86	74	87	77	66	85	84	77	54	23
supper	71	85	76	73	80	83	83	71	90	90	80	65	15
once	77	85	85	71	78	76	67	75	88	78	78	68	10
afraid	39	72	62	61	50	63	57	46	61	62	57	50	7
thunder	56	68	53	62	64	76	75	56	59	72	64	39	25
noise	39	69	56	65	41	75	59	41	61	50	55	42	13
found	38	71	67	69	69	65	78	78	68	88	69	67	2
could	72	80	64	56	57	84	71	72	81	87	72	59	12
read	87	86	82	80	88	96	89	91	92	87	87	58	29
letters	69	76	71	77	84	87	79	75	81	74	77	53	24
written	34	58	25	12	28	50	24	51	34	36	35	16	19
story	75	84	75	72	82	32	76	75	79	77	72	63	9
week	88	68	78	76	86	86	85	82	91	93	83	78	5
arithmetic	20	78	12	14	28	65	31	30	60	85	42	41	1
subtract	26	55	18	29	24	56	33	57	40	70	40	36	4
many	82	80	75	68	76	76	70	71	85	83	76	72	4
wrong	52	68	39	42	48	49	53	62	48	60	52	33	19
none	65	77	60	50	47	69	71	57	66	67	62	52	10
right	60	63	62	59	63	62	53	57	71	55	60	50	10
laid	50	60	32	55	47	62	37	31	47	46	46	27	19
soap	60	82	76	64	59	75	80	62	60	84	70	55	15
window	75	76	70	72	76	81	73	75	81	84	76	49	27
board	61	67	45	72	36	63	74	63	42	74	59	32	27
pencil	39	75	60	34	51	65	65	44	57	46	53	57	− 4
pocket	58	70	70	59	77	76	78	52	63	58	66	45	21
bridge	32	74	45	36	54	74	59	42	60	42	51	44	7
already	26	60	45	21	45	37	26	44	58	33	39	18	21
holes	66	68	46	52	66	73	72	57	60	68	62	55	7
Average	59	75	62	62	66	73	69	63	70	73	67	53	13.7

Variation in spelling ability.—It is of interest to note the wide variation in spelling ability of the same grade in different cities. For example, in city No. II (Centerville) 83 per cent of the third-grade children spell the word "doctor" correctly, while the same

word is spelled correctly by only 45 per cent of the third-grade children in city No. I (Boone). The word "doctor" is, therefore,

TABLE II

SHOWING GAIN IN SPELLING ABILITY OF IOWA CHILDREN OVER OTHER CHILDREN IN UNITED STATES

Words	Third Grade	Fourth Grade	Words	Fifth Grade	Sixth Grade	Words	Seventh Grade	Eighth Grade
doctor	8	6	found	3	1	mosquito	− 1	− 9
made	19	9	handkerchief	2	3	contagious	3	−12
much	13	7	parlor	13	5	disease	10	− 7
money	6	5	Wednesday	8	− 7	consequences	7	6
water	20	0	chance	3	2	ignorance	−10	− 4
basin	20	13	buy	− 4	− 4	error	11	− 2
large	21	8	banana	− 7	− 4	disaster	− 1	− 2
office	0	0	nickel	10	2	impossible	2	− 2
buy	14	12	brave	2	0	prepare	1	2
coffee	16	− 1	captain	1	3	difficult	1	− 1
sugar	11	8	caught	18	8	grammar	− 9	− 0
meat	15	3	hoarse	17	18	guilty	1	− 2
store	0	2	according	− 1	5	innocent	0	3
monkey	20	5	story	− 1	− 3	attorney	8	− 5
peach	20	4	bicycle	2	18	committee	0	−12
orange	18	0	pistol	11	11	recommended	−10	−13
some	14	15	sleigh	19	4	license	−11	−10
corn	20	4	scissors	11	− 9	principal	4	10
birds	5	5	cheap	− 1	− 2	address	8	− 4
come	4	0	nineteen	14	0	colonel	5	−13
iron	15	8	apiece	38	41	lieutenant	2	− 5
fence	16	− 5	already	− 8	−10	millinery	0	− 8
garden	23	10	excellent	11	9	stationery	− 7	− 4
supper	15	− 1	dessert	0	4	separate	5	15
once	10	3	expense	16	4	independent	6	2
afraid	7	3	cough	− 4	− 4	judgment	14	16
thunder	25	13	nobody	10	12	apologize	5	− 8
noise	13	4	knew	6	3	extraordinary	6	− 4
found	2	1	holes	1	1	occurrence	16	3
could	12	3	umbrella	1	− 9	associates	0	−18
read	29	10	medicine	4	− 1	chauffeur	9	−18
letters	24	13	elephant	11	6	physician	− 3	−17
written	19	10	February	10	− 5	ancient	4	− 7
story	9	1	store	3	1	cemetery	−23	−19
week	5	4	avenue	2	− 6	sovereign	15	−12
arithmetic	1	− 7	many	− 1	− 1	villain	4	− 2
subtract	4	9	voice	7	6	convenient	1	− 5
many	4	− 5	whisper	16	7	opportunity	− 4	0
wrong	19	17	before	5	0	proceed	− 2	9
none	10	7	fertile	4	− 5	journey	3	0
right	10	9	fields	3	− 1	explain	5	− 2
laid	19	21	o'clock	4	7	difference	− 4	− 1
soap	15	3	engine	0	− 4	marriage	−10	− 5
window	27	7	ankle	− 3	− 6	choir	6	2
board	27	24	aches	6	2	favorite	9	− 1
pencil	− 4	−13	manner	8	11	hymn	1	− 5
pocket	21	7	tomato	9	− 1	palace	4	− 4
bridge	7	14	cabbage	5	1	emperor	1	− 3
already	21	6	decided	12	12	secretary	− 1	− 8
holes	7	8	accept	6	1	declared	5	− 2
Average gain for Iowa	13.7 per cent	5.7 per cent	Average gain for Iowa	6 per cent	2.5 per cent	Average gain for Iowa	1.3 per cent	Loss 3.9 per cent

almost twice as difficult for Boone children as it is for the children in Centerville. Probably the word was studied in Centerville and not in Boone. This shows that efficiency in spelling is dependent upon a great many factors. The true efficiency of different cities

cannot be measured until we are certain that the same lists of words has been studied in each city. This lack probably accounts in part for the wide variation which appears in these tests.

Comparison of Iowa with the standard for the United States.—In Table II may be found a summary of the comparative scores of Iowa and the United States. The table should be read as follows: On the average 8 more third-grade children in 100 spell the word "doctor" correctly in Iowa than in the United States; 6 more in the fourth grade; 3 more in 100 spell the word "found" correctly in the fifth grade; 1 more in the sixth grade. In the seventh grade, Iowa's standing is below that of the United States by 1 per cent, and in the eighth grade, 9 per cent below. A careful study of this table shows that on the average, as measured by these tests, Iowa children are superior to other children in the United States in spelling ability in every grade excepting the eighth. This superiority is especially marked in the third, fourth, and fifth grades. Iowa children are 1–2 per cent above the average for the United States in the sixth and seventh grades, but in the eighth grade they are nearly 4 per cent below the normal for the United States. If these tests are accurate, we are teaching spelling as effectively in this state as in other states excepting in the eighth grade.

Conclusions.—The writer does not think that the results here given are in any sense final. The article merely describes an attempt to measure the spelling abilities of Iowa school children by existing standards. As a result of this attempt, the writer is convinced that three things are needed: First, the spelling ability of a grade or of a school system cannot be measured by testing the children upon arbitrary lists of words. It is not fair to test a given grade with a list containing a number of words which have not been studied. The first essential, then, is to get a list taught and studied before the tests are made. Until this is done, such tests as those described herein are not tests of spelling ability so much as they are tests of whether or not the given list has been taught. The second conclusion to which the writer has come in making this study may be stated about as follows: no list of 10 words or of 50 words is sufficient to test the spelling abilities of a

given grade. It is a statistical impossibility. If the third grade, for example, has been taught to spell 1,000 words, 10 words or 50 words given in such a test are hardly a fair sampling of the 1,000. Certainly the words in the Buckingham test are not a fair sampling of the words taught to children in different grades. Thirdly, the writer does not believe that any present standard of spelling attainment for a given grade is of very much value to either the supervisor or the teacher. They cannot be of very much value until the spelling lists for each grade have been carefully determined. The present standards are based upon accidental selections which are not representative.

THE REORGANIZATION OF ENGLISH IN THE ELEMENTARY SCHOOL

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When one sees the results of the present scheme of teaching English in the grades, it seems evident at once that there is something defective or inefficient in the method. This defect cannot be explained by the kind of material given to pupils, neither can we trace this result to the daily methods used in teaching elementary English; but the defective result comes from the lack of organization of the work. To illustrate, here is the general outline of five lessons of work as given in a textbook which is very widely used by those who advocate the teaching of English inductively:

Lesson 1. Vacation experiences: oral narrative.

Lesson 2. Learning to speak and read well: reading verses; breathing-exercises; copying verses.

Lesson 3. A book for verses: oral explanation; written sentences; the period; writing a note.

Lesson 4. "The Apple of Discord": a picture; making a story; comparison; acting a story.

Lesson 5. Drill on Italian "a."

The material is to be presented inductively, as has been said, and the child is left to see for himself, if he can, the general principles which all the exercises contain. That is to say, there are practically no definite conclusions or rules concerning the technical side of the language which the child may use as milestones in the study of a language. Each exercise might be defended in itself, but the series as a whole is loose and leads to no clear result. The teacher may carry out the routine of each exercise well, but there is no common guiding principle which dominates and controls the instruction throughout.

The series of exercises is presented without any reference to the logical development of the language. The argument offered

in favor of this kind of exercises is that formal rules often break associations or prevent the cultivation of ideas. Such an argument sounds plausible on the face of it, but one must take into consideration the fact that logical development of a train of ideas is a very important factor in the building up of all constructive forms of expression.

Besides this lack of organization, which is clearly seen in this series of lessons, there is another very serious indictment against such exercises. Many of them introduce a great mass of wholly irrelevant matter. The pupil is thus confused and gets no clear ideas about the principles of correct expression. For example, let us use Lesson 3 of the outline of work which has already been given.

A Book for Verses

Make for yourself a book in which you can copy all the verses and sentences you like. Be careful to make the book as attractive as possible.

When it is finished, bring it to class and explain how you made it. What did you consider before deciding the size? How did you fasten the sheets of paper? What sort of paper did you use for covering the boards? How did you cover and join the boards? How did you fasten the end papers? What design did you make for the cover? What did you consider in making your design?

Discuss all these questions in class, and when you have decided just what was done write sentences on the board one after another that will answer every question. Be careful to leave a broad, even margin between what you have written and the left edge of the board or paper, but begin the first line at least an inch farther to the right. Put a period after every one of your sentences. With what sort of letter will you begin each sentence?

Copy what you have written on the first page of your book, being careful about the margin and the place where you begin the first line. Let your work be very neat.

Write a note to a friend telling her why you made the book and how you are going to use it.

This lesson illustrates very well the general type of work found in these series of lessons intended for use in the entire elementary school. If one looks over the exercises again, one notices that a good part of the time is given to breathing-exercises, drills on Italian *a*, *e*, etc., word games, and nonsense, and that the remainder of the time for the work in English is spent on the type of lesson which has just been given. Under such conditions, is it surprising

that pupils emerge from our elementary schools with very little training either for the use of clear English in the industrial world or for work in advanced courses in the secondary schools?

The writer makes a plea for direct emphasis on the laws and forms of expression. If the lesson is recognized as a lesson in language, the class can be directed in its use of all sorts of expression.

Thus, in the explanation of the making of the book, the pupil will make various statements as to what he has done. These statements may be written on the board as follows:

1. My book is ten inches long.
2. I covered my boards with brown paper.

Some are led to ask questions as to the making of the book or as to how they shall continue the work, as:

1. How shall I join the boards?
2. Shall I write the sentence on the first page?

Now one of the books is held before the class and someone says:

1. What a nice book!
2. How beautiful this one is!

With the making and discussion of the books finished, we have four distinct groups of sentences on the board, which are to be put into the notebook. Attention is called to the first group:

1. My book is ten inches long.
2. I covered my book with brown paper.

What does the first sentence tell? What statement is made in the second sentence, etc.? As soon as the function of the sentence is made clear the conclusion should follow. It should be simple and clear-cut: A sentence that tells something or states a fact is called a declaration sentence.

Similarly, the other groups of sentences may be taken up and disposed of, making clear the mechanics in the case, so that the student may be able to use these tools skilfully in the manipulation of his language.

English work in the grades should include enough formal definition of sentences to give the pupil a clear-cut idea of the structure of the language, and should still have plenty of time and space to give the child material which will train him in thinking and develop his powers of initiative. The ability to take the initiative is very

important, but one must recognize the fact that to be able to reason by analysis is just as important; indeed, it is one of the highest forms of intellectual development. The method of presenting material to children inductively without any reference to the structure of the language, or without drill in deductive thought, results in a great loss of time and in lack of co-ordination with future work in English.

The following is an outline which the writer uses and believes to be fundamentally important in teaching the mechanics of the language:

1. Kinds of sentences, according to use and form.
2. Subject and predicate, with their functions.
3. Phrases and clauses, with syntax.
4. Parts of speech, with syntax and their relation in the sentence.

To be sure, if these formal lessons are overemphasized, then our English work beomes purely formal grammar, which is as undesirable as induction alone in the teaching of English.

As has been said, much of our elementary work in English can be and should be used to train the child in initiative and in individual thinking, and to develop a keen interest for the work which shall not be devoid of effort. Take, for example, Lesson 3, which has already been used. Material is given the child for the making of the book. Upon the presentation of cardboard, paper, paste, and string, and some explanations concerning the cutting and size, the child is set to work. Most children do this type of work with very little direction, since they are dealing with things rather than abstract ideas. Real interest is felt in this work, for the making of the book is new work for the class, and there is also a certain pride in the appearance of the book, since it is to be used by the individual who is making it. Here is a good opportunity to train initiative. A few of the ingenious ones of the class will be able to make the notebook without any direction; the majority will do the work after having some fundamental explanation; and a few, not being able to manipulate things (or not being hand-minded), will fail in this phase of the work. But there is only indirect training in English in all this. There is certainly no guarantee that improvement in handwork will result in better composition.

A great deal of work should be given for its literary value and pleasure which is outside the pale of that which has just been discussed. For example, every normal child gets a certain amount of pleasure out of memorizing Longfellow's "The Children's Hour," or from the rhythm of Tennyson's "The Brook."

Dramatization is a type of English work which may also be used with discretion in practically every grade. Lesson 4, "The Apple of Discord," will serve to illustrate. A picture is given of four children. The little boy in the picture is presenting an apple to one of the three little girls. The picture represents them as having been playing in the woods. After a study of the picture the pupils write the story of the picture, each interpreting it as his imagination leads. Some will tell of the games which these children have supposedly played and then give the conversation which took place concerning the apple. Using this material, a play can be worked out and dramatized which will train conversation and make the work alive. Indeed, a good part of the time should be given to reading, dramatization, memory work, and story-writing, but into these phases of the work should be woven logically the fundamentals of language.

Such exercises as these just described are not formal exercises in sentence-structure, but they can be given a clearly defined place in the English course because they serve specific, clearly recognized purposes in teaching oral and written expression. Their introduction into the course is in response to a definite demand for a certain type of English training. Again, the motive is part of a logical scheme of language instruction. The course will have a kind of completeness which it cannot have if it is not built up step by step for the purpose of training in language.

The greatest issue in the teaching of elementary English is not merely to present a body of material which shall prove interesting and suggestive, but to organize the work on such a basis as will give knowledge and appreciation of modes of expression and at the same time give a structural basis for future work. Failure to organize the work of the elementary grades in a clear, logical way results very often in serious loss when children go on to the high school, because eighth-grade English is repeated in part in the first

year of high school. Thus, with proper organization of upper-grade English work with an aim toward articulating it with high-school work, a year of time may be profitably saved for the pupil. To illustrate, the high schools complain of the inefficiency of pupils in recognizing simple technique and in using the simplest elements of expression with assurance. Consequently in the first year of high school a large amount of time is given to simple constructions and technicalities which could have easily been learned in the upper grades.

However, the problem is not one of stress upon formalities and technicalities of the English language, but one of reorganizing the material which we now have at hand so that no single aspect will be overemphasized, to the neglect of other important factors in the teaching of English.

If this motive is kept in mind, our elementary English will more nearly meet the requirements of the different types of students which pass out of our elementary schools.

AN EXPERIMENT WITH THE INDIVIDUAL

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Even under the junior high-school system the difficulty still remains, especially in a small school, of meeting the needs of the individual. For decades we have trained the professional classes fairly successfully in our schools. They have been given a vocational education. Only recently have we awakened to the opportunity of prevocational training for the industrial classes. The child for whom our present school system seems to hold the least is the boy who rebels at the academic studies and revels in the manual arts. His interests lie in machines, in tools, in work with his hands, not in textbooks. It is a matter of but months when he will leave the school entirely.

We have in our school two or three boys who, in spite of all encouragement and prodding in their classroom work, refuse to take an interest in anything except their manual training. Ours is a school with only 75 to the grade, and hence it is impossible for us to have a special class devoted entirely to the industrial or prevocational work. It seemed, however, that such boys should have special attention. They were going into lines of work for which, through the manual-training department, they should be able to receive far more adequate preparation. The principal, in conference with the supervisor of manual training, mapped out a special program for one of the boys who was most in need of it.

Most of his time is to be spent in the shop. His pride and responsibility are fostered by giving him the title of assistant. Around this position as a hub the spokes of his other related work radiate. The shopwork which he does is all objective, to be used within the school as actual contributions to its equipment in one way or another. Twice a week, the first period in the morning, he reports to the high-school mechanical-drawing class. Here, at the

same time that he is learning the fundamentals of draughting, he is making the plans for the constructive work in which he will engage during the rest of the week. Every day he attends regular classes in English and arithmetic in the junior high school. It seemed essential that he continue his study along these two most important branches of academic work. One afternoon a week he joins a special class of high-school students who are studying the chemistry of soil under the direction of the science instructor. As soon as weather permits, a practical application will be made with an experimental garden. The rest of the school day, the bulk of his time, is spent in the practical working out of the plans and theories and study from his other classes. Arithmetic is continually applied in problems of measurement, cost, and the like. He is frequently sent to the lumber yard or the hardware store to make a purchase. In this way money values, tables of dimensions, and fractions become really alive to him. Before he goes home at night he must hand in a neatly written, well-spelled, and well-worded report of everything which he has done during the day. This includes the classes he has attended, the plans he has made, the costs he has computed, the material he has purchased, the progress of his manual work—in short, anything which has occupied him during the day. His standing in English is dependent even more upon the writing of this report than upon his regular classroom work in that subject. In the same way his measurements, his cost accounting, etc., are an essential part of his arithmetic. Prompt and regular attendance—the nominal school day—are rigidly insisted upon.

Although the experiment has been in operation too short a time for us to forecast its ultimate outcome, there are, nevertheless, a number of encouraging signs. The problem of discipline which, in his case, troubled us considerably has disappeared entirely. He has accepted his responsibility in the shop, and the supervisor has been able successfully to leave classes of fifth- and sixth-grade boys in his charge. He enjoys the work enough to come early and stay late. This was so evident that within a few days after his start in this special work another boy of much the same temperament came to the principal with an earnest appeal for the same opportunity. The decision was postponed because of the fear that

two boys, left together so much to their own devices, would abuse their privileges. When, however, the boy returned the next day with his father, whom he had converted to his plan, it was decided to give him a trial along the same lines as his fellow-student. So far their discipline has been above reproach, and the two are able to do many things together which they could not do alone.

One of their accomplishments is a cabinet for the shop in which are kept the screws, nails, sandpaper, etc. It is well fitted with shelves, drawers, and cupboard space. We find among other articles, completed or planned, such contributions as these: trays for inkwells for teachers' desks, holders for pencils for primary rooms, extra shelves for teachers' closets, bulletin boards, bookcases, coat-trees, tables, and floors. If I wanted a man to do a handy job for me, there is no one I should prefer to one of these boys.

So far the solution of their problem has been exceedingly encouraging. We can accommodate more pupils as fast as we can assimilate them into the right kind of manlike responsibility when not under surveillance. In our town the number would not be large and the work would of necessity be of this special type. This attempt has not cost us a cent, and but little extra time, every minute of which we feel well worth the effort. Men in the true meaning of the word are being made. The probability is that these boys will stay longer under the supervision of the school than they would otherwise. They are raising the *morale* and *esprit de corps* of the student body, not lowering it, as they have done in the past, and, on the whole, both the individuals and the school at large have been benefited.

BOOKS RECEIVED

GINN & CO., BOSTON

Lamb's Tales from Shakespeare (new ed.). Cloth. Pp. 362. $0.45.

Language Work in Elementary Schools. By M. A. LEIPER. Cloth. Illustrated. Pp. 333. $1.25.

Latin Plays for Student Performances and Reading. By JOHN J. SCHLICHER. Cloth. Pp. 213. $0.75.

Young and Field Literary Readers. Book Two. By ELLA FLAGG YOUNG and WALTER TAYLOR FIELD. Cloth. Illustrated. Pp. 208. $0.40.

HOUGHTON MIFFLIN CO., BOSTON

Community Hygiene. By WOODS HUTCHINSON, M.D. Cloth. Illustrated. Pp. 310. $0.60 net.

Theory and Practice of the Kindergarten. By NORA ATWOOD. Cloth. Pp. 185. $0.60 net.

The Motivation of School Work. By H. B. WILSON and G. M. WILSON. Cloth. Pp. 265. $1.25 net.

Little Bird Blue. By WILLIAM L. and IRENE FINLEY. Cloth. Illustrated. Pp. 60. $0.40 net.

The Mexican Twins. By LUCY FITCH PERKINS. Cloth. Illustrated. Pp. 184. $0.50 net.

MACMILLAN COMPANY, NEW YORK

Democracy and Education. By JOHN DEWEY. Cloth. Pp. 434.

Froebel's Kindergarten Principles: Critically Examined. By WILLIAM H. KILPATRICK. Cloth. Pp. 217.

The Plain Story of American History. By JOHN SPENCER BASSETT. Cloth. Illustrated. Pp. 545.

The Ideal Catholic Reader. Third Reader. By a SISTER OF ST. JOSEPH. Cloth. Illustrated. Pp. 247. $0.40.

Practical Spelling Lessons. Book One. By CHARLES P. ALVORD and EUGENE G. HUGHEY. Cloth. Illustrated. Pp. 144.

The Modern Speller. By KATE VAN WAGENEN. Cloth. Illustrated. Book One, Pp. 120. Book Two, Pp. 153.

MANUAL ARTS PRESS, PEORIA, ILLINOIS

Art in Dress. With Notes on Home Decoration. By LYDIA BOLMAR and KATHLEEN MCNUTT. Paper. Illustrated. Pp. 42. $0.35.

Bird Houses Boys Can Build. By ALBERT F. SIEPERT. Paper. Illustrated. Pp. 60. $0.50.

Shop Problems. Series No. 2. By ALBERT F. SIEPERT. $0.25.

NEWSON & CO., NEW YORK

The Aldine Spellers. By CATHERINE T. BRYCE and FRANK J. SHERMAN. Cloth. Illustrated. Part One, Pp. 70; Part Two, Pp. 85; Part Three, Pp. 74.

The Aldine Readers. By CATHERINE T. BRYCE and FRANK E. SPAULDING. Cloth. Illustrated. $0.36. Primer, Pp. 151; First Reader, Pp. 151.

Learning to Read. A Manual for Teachers. By FRANK E. SPAULDING and CATHERINE T. BRYCE. Cloth. Pp. 243. $0.60.

Aldine Language Books. By CATHERINE T. BRYCE and FRANK E. SPAULDING. Cloth. Illustrated. First Book, Pp. 278; Second Book, Pp. 328.

Aldine Language Method. Manuals for Teachers. By FRANK E. SPAULDING and CATHERINE T. BRYCE. Cloth. Part One, Pp. 274; Part Two, Pp. 173.

D. C. HEATH & CO., NEW YORK

The Avoidance of Fires. By ARLAND D. WEEKS. Cloth. Illustrated. Pp. 128. $0.60.

CHARLES E. MERRILL CO., NEW YORK

Fifth Reader. By FRANKLIN B. DYER and MARY J. BRADY. Cloth. Illustrated. Pp. 320. $0.52.

G. P. PUTNAM'S SONS, NEW YORK

The World and Its Wonders. Cambridge Geographical Readers. Cloth. Illustrated. Pp. 153. $0.30.

RAND McNALLY & CO., CHICAGO

Washington: A Virginia Cavalier. By WILLIAM H. MACE. Cloth. Illustrated. Pp. 180. $0.35.

SCOTT, FORESMAN & CO., CHICAGO

Plane Geometry. By CLAUDE I. PALMER and DANIEL P. TAYLOR. Cloth. Illustrated. Pp. 277.

MISCELLANEOUS

America the Wonderland: A Patriotic Festival. Published by the Ethical Culture School. Cardboard. Illustrated. Pp. 55.

Animal Geography. By MARION I. NEWBIGIN. Cloth. Illustrated. Pp. 238. The Clarendon Press. Oxford.

Annual Report of the Smithsonian Institution, 1914. Cloth. Illustrated. Pp. 729. Government Printing Office.

The Essential Place of Religion in Education. Paper. Pp. 134. $0.30. Monograph published by the National Education Association.

List of Material: Which May Be Obtained Free or at Small Cost. By MARY JOSEPHINE BOOTH. Paper. Pp. 67. $0.25. American Library Association Publishing Board.

A Brief Guide to the Literature of Shakespeare. By. H. H. B. MEYER. Paper. Pp. 61. $0.50. American Library Association Publishing Board.

Notes on Plants. By ANNA BOTSFORD COMSTOCK. Paper. $0.30. Comstock Publishing Company.

Report of the Use of the Courtis Standard Research Tests in Arithmetic in Twenty-four Cities. By WALTER S. MONROE. Paper. Pp. 94. Bureau of Educational Measurements and Standards, Kansas State Normal School, Emporia.

Teaching Elementary Science in Elementary Schools. By J. EDWARD MAYMAN. Paper. Pp. 164. Division of Reference and Research, Department of Education, the City of New York.

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